Plenary Panel—Contracting for Deployed Forces

Thursday, May 19, 2005 1:00 p.m. – 2:45 p.m.	**Plenary Panel—Contracting for Deployed Forces** **Chair: Stan Soloway**, Professional Services Council **Discussants:** **Rear Admiral Martin Brown**, Office of the Assistant Secretary of the Navy (Research, Development & Acquisition) **Commander Gary Broadwell**, Joint Staff Logistics Directorate **Papers:** *"The Yoder Three-tier Model for Optimal Planning and Execution of Contingency Contracting"* Elliott Cory Yoder, Naval Postgraduate School *"Joint Contingency Contracting"* Major Ken Johnson, US Army, Naval Postgraduate School Captain Bryan Paton, US Marine Corp, Naval Postgraduate School Captain Kurt Threat, US Army, Naval Postgraduate School Lisa Haptonstall, Defense Contract Management Agency, Naval Postgraduate School *"Contractors on the 21st Century Battlefield"* Richard L. Dunn, University of Maryland

Chair: Stan Soloway—President of the Professional Services Council, the principal national trade association representing the professional and technical services industry. PSC is known for its leadership in the full range of acquisition/procurement and outsourcing and privatization issues. Mr. Soloway assumed the presidency in January 2001.

PSC's member companies provide expertise in areas such as defense, space, environment, energy, education, health and international development that is used to assist virtually every department and agency in the federal government. PSC's members also have extensive business relationships with state and local governments and commercial and international customers. All told, the professional and technical services sector performs more than $400 billion in service nationally, including more than $100 billion annually in support of the federal government.

Prior to joining PSC, Mr. Soloway served nearly three years as the deputy undersecretary of defense (acquisition reform) and concurrently as director of Secretary of Defense Cohen's Defense Reform Initiative. As deputy undersecretary, he was the department's senior official responsible for the development and implementation of far-reaching reforms to the DoD's acquisition processes and policies. As director, DRI, Mr. Soloway led significant department-wide re-engineering and reform initiatives in areas as diverse as privatization and outsourcing, electronic commerce, financial management reform, logistics transformation, and quality of life for troops.

In recognition of his leadership at the DoD, in April 2000 Mr. Soloway was awarded the Secretary of Defense Medal for Outstanding Public Service and, in December 2000, was awarded the Secretary of Defense Medal for Exceptionally Distinguished Public Service, the highest civilian award of its kind.

Before his appointment to the DoD, Mr. Soloway was a public policy and public affairs consultant for nearly 20 years and a highly regarded expert in, and frequent lecturer on, acquisition, privatization, and out-sourcing issues. He served on the Policy Committee of the Council of Defense and Space Industry Associations, was co-founder of the Acquisition Reform Working Group, chairman of the Industry Depot Coalition, and founding member of the Government Competition Coalition. Additionally, he has produced local, national, and international television projects and has consulted on more than a dozen campaigns for the U.S. Congress and Senate.

Mr. Soloway earned a degree in political Science from Denison University in Ohio, where he was elected to the National Men's Journalism, National Men's Leadership, and National Political Science honorary societies.

Discussants:

Rear Admiral Martin Brown—Deputy Assistant Secretary of the Navy for Acquisition Management for the Assistant Secretary of the Navy (Research, Development and Acquisition). He advises the Navy's Senior Acquisition Executive on business matters concerning Navy and Marine Corps programs and provides policy and oversight for the Navy's procurement system, which comprises over 600 activities conducting approximately two million transactions annually worth more than $40 billion.

Rear Adm. Brown also serves as the Competition Advocate General of the Navy. As such, he ensures that the Navy and Marine Corps maximize competition to obtain the best value for their procurements.

He previously served as Special Assistant for Joint and Operational Logistics, Naval Supply Systems Command, Arlington, Va., from 2002 to 2004. His other tours include Force Supply Officer for the Naval Surface Force, US Pacific Fleet, from 2000 to 2002, Acquisition Business Management Deputy for Program Support in ASN (RDA) from 1998 to 2000. From January to July 1999, he served in Sarajevo, Bosnia, as NATO's Theater Head of Contracts.

Rear Adm. Brown received his commission through the NROTC program from the University of Notre Dame in 1977. Following Supply Corps School, he was assigned as Supply Officer of *USS Andrew Jackson* (SSBN 619). From 1980-1982, he was a Navy Acquisition Contracting Officer at the Navy Regional Contracting Center in Long Beach, California. From 1982 to 1984, he served as Supply Officer of Submarine Squadron Four in Charleston.

From 1984 to 1986, he attended UCLA's Graduate School of Management, receiving his MBA in Finance and Public Management. From 1986 to 1989 he served as Business Review Officer and New Construction Contracts Officer at the Supervisor of Shipbuilding, Conversion and Repair in San Diego. Following that tour, he was Assistant Supply Officer of *USS McKee* (AS 41).

Rear Admiral Brown served as Deputy Director of the Missiles, Systems and Avionics Contracts Division at the Naval Air Systems Command in Washington, DC, from 1991 to 1993. He received a Master's of Science degree from the Industrial College of the Armed Forces and also graduated from the Defense Acquisition University's Senior Acquisition Course in 1994.

From 1994 to 1996, he was assigned to the Joint Staff International Logistics Division. For his contributions to operational logistics in Haiti and Bosnia, then Commander Brown was recognized as the Logistics Directorate's Action Officer of the Year in 1996. From 1996 to 1998, he was Supply Officer of *USS Tarawa* (LHA 1), completing two western Pacific deployments.

Rear Adm. Brown's awards include the Legion of Merit, the Defense and Navy Meritorious Service Medals, the Joint Service Commendation Medal, and the Navy Commendation Medal with three gold stars.

Commander Gary Broadwell—Joint Staff Logistics Directorate, graduated from the University of Oregon with a Bachelor's of Science in Business Management and obtained his commission as a Surface Warfare Officer (SWO) through the Officers' Candidate School in March of 1984. As a SWO, he served as Damage Control Assistant and later Navigator on USS MOUNT HOOD (AE 29) and as the Combat Information Center Officer on USS ARKANSAS (CGN 41). After selection for lateral transfer to the Supply Corps, he returned to sea as the Supply Officer on USS CHANDLER (DDG 996) and later the Assistant Supply Officer on USS BELLEAU WOOD (LHA 3) homeported in Sasebo, Japan.

During his first shore tour, he earned a Master's of Science (Acquisition & Contracting) from the Naval Post Graduate School in Monterey, California and reported to the Naval Air Systems Command as a Contracting Officer supporting the Program Executive Officer for Cruise Missiles & Unmanned Aerial Vehicles. During this tour, he worked one of the first contracting ventures with the former Soviet Union procuring the target variant of the AS-17 Krypton supersonic sea-skimming missile, earned two awards for acquisition streamlining, Acquisition Professional Community (Level III) membership, and Certified Professional Contracts Manager (CPCM) certification.

He later earned Joint Professional Military Education (JPME) Phase I qualification from the USAF Air Command & Staff College and JPME Phase II qualification from the Armed Forces Staff College prior to reporting as Program Analyst with the Assistant Secretary of the Navy (Research, Development and Acquisition). During this tour his team was awarded the Secretary of the Navy Competition & Procurement Excellence Award for their innovative award of a performance-based $330 million contract for the Navy Recruiting Command. From here, he served a joint tour at the United States Military Training Mission, Riyadh, Saudi Arabia overseeing the Royal Saudi Naval Forces Foreign Military Sales program.

CDR Broadwell was recently selected for Captain and is currently assigned to The Joint Staff, Directorate for Logistics (J4) where, among other sustainment issues, he focuses on circumstances and policy affecting contractors accompanying the force. Most recently, he has drafted overarching US Department of Defense policy to address *Contractor Personnel Supporting Contingency Operations*. He is married to the former Julia Cupani and lives in Alexandria, Virginia.

The Yoder Three-tier Model for Optimal Planning and Execution of Contingency Contracting

Presenter: Commander (Ret) Cory Yoder, is a faculty member of the Naval Postgraduate School's Graduate School of Business and Public Policy (GSBPP). Assigned to NPS in July 2000, he accepted an appointment as Academic Associate (Program Manager) for the 815 (MBA) and 835 (MSCM) programs in December 2002. Commander Yoder has accepted a civilian position at NPS/GSBPP as Lecturer and Academic Associate (Program Manager). Cory has strong acquisition and contracting experience, combined with several challenging acquisition, logistics, industrial, headquarter, and combat support operations assignments.

Commander (Ret) Yoder entered the United States Naval Service in 1984. Since his commission, he has performed in numerous assignments, including, but not limited to: Director and Chief of Logistics, Headquarters, Allied Forces Southern Command (AFSOUTH), Naples, Italy (logistics, contracting, finance within NATO); Post Commander and Support Group Commander, Kosovo Verification Coordination Center (KVCC), Kumanovo (Skopje), Macedonia; Officer-in-Charge, Fleet and Industrial Supply Detachment, Long Beach, California; Stock Control Officer, USS TARAWA (LHA-1); Aviation and Surface Stores Officer, USS TARAWA (LHA-1); Naval Acquisition and Contracting Officer (NACO) internship, Naval Regional Contracting Center (NRCC), Washington, DC; Supply Officer, USS FANNING (FF-1076).

CDR (Ret) Yoder holds the following degrees: a MA in National Security and Strategic Studies, Naval War College (NWC), Newport, Rhode Island, 1997; a MS in Management, Naval Postgraduate School, Monterey, CA, 1993; a BS in Business Management, Indiana University "Kelly" School of Business, 1983.

CDR (Ret) Yoder is DAWIA Contract Level III certified, a Direct National Member of the Institute for Supply Management (ISM), and a member of Beta Gamma Sigma international honor society for graduate degree holders.

CDR (Ret) Yoder has published several articles in acquisition and contracting, including, but not limited to: "Contingency Contracting Operations—Achieving Better Results," "The Naval Postgraduate School's Defense-Focused Master's Programs in Acquisition and Contracting," "Lessons for Contingency Contracting, Humanitarian Operations in Uzbekistan," "Creating Something from Nothing," "Engagement versus Disengagement: How Structural & Commercially-Based Regulatory Changes have Increased Government Risks in Federal Acquisitions."

ABSTRACT

Contingency efforts in Iraq, Afghanistan, and several other countries in the last few years have been subjected to close scrutiny and critique. Contingency Contracting operations are increasingly the major source of support and provisioning in forward theaters, especially in light of reductions in organic (non-contracted) support capabilities. Recently, theater combatant commanders have come to rely on contingency contracting officers to support coalition forces, and concurrently, to achieve a transformation of the economic landscape essential for achieving theater objectives. But, critics of recent operations cite deficiencies in DoD's ability to effectively and efficiently conduct a coordinated contracting support effort that integrates the combatant commander's theater objectives with the myriad stakeholders deemed essential for success. Can we, the military, achieve better results? The author contends that with proper understanding of integrated planning and execution, contingency contracting operations can, and will, provide significant leverage for achieving the combatant commander's objectives.

The author formally presented, on August 7th, 2003, a Yoder three-tier model for contingency contracting operations to the faculty of the Naval Postgraduate School.[1] Subsequent to the NPS faculty presentation, the author published a synoptic "interest" article in the *Army AL&T Magazine*'s January-February 2004 edition, entitled, "Contingency Contracting Operations—Achieving Better Results."[2]

Because of continued interest in the Yoder three-tier model expressed by academics, force planners, and contracting offices from several agencies, the author believes a more comprehensive write-up of the Yoder three-tier model is appropriate. The NPS Acquisition Symposium provides the in-depth coverage, broad dissemination and recognized avenue for open dialogue of the model and its potential efficacy.

As such, this paper proposes the Yoder three-tier contingency contracting officer model structure for Army, Navy, Marine Corps, and Air Force support of theater contingency contracting operations. The creation of this Yoder three-tier model and its employment will allow for better planning and coordination; likewise, it will allow for better tactical, operational, and theater objective support.

INTRODUCTION

I. Backdrop and Purpose:

Contingency efforts in Iraq, Afghanistan, and several other countries in the last few years have been subjected to close scrutiny and critique. Contingency Contracting operations are increasingly the major source of support and provisioning in forward theaters, especially in light of reductions in organic (non-contracted) support capabilities. Recently, theater combatant commanders have come to rely on contingency contracting officers to support coalition forces, and concurrently, to achieve a transformation of the economic landscape essential for achieving theater objectives. But, critics of recent operations cite deficiencies in DoD's ability to effectively and efficiently conduct a coordinated contracting support effort that integrates the combatant commander's theater objectives with the myriad stakeholders deemed essential for success. Can we, the military, achieve better results? The author contends that with proper understanding of integrated planning and execution, contingency contracting operations can, and will, provide significant leverage for achieving the combatant commander's objectives.

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[1] (Yoder, 2003a).

[2] (Yoder, 2004, pp. 95-97).

[3] (Yoder, 2003a).

[4] (Yoder, 2004, pp. 95-97).

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II. Areas of Focus:

This working paper is divided into two major sections. The first section provides an overview of the unique contingency contracting requirement. It covers several topics vital to understanding why the Yoder three-tier model is appropriate. The second section then defines and presents the Yoder three-tier model. This portion provides in-depth coverage of the three contingency-contracting models proposed by the author.

As the successful creation and utilization of this conceptual model entails contracting, acquisition, personnel planners, and logisticians, the broadest dissemination and integration of this Yoder three-tier model is proposed.

III. Major topical areas addressed include:

Section One: The unique contingency contracting requirement:

I. "Contract" definition

II. Functions of a contract

III. "Contingency contract" definition

IV-VII. Real-world examples

Section Two: The Contingency Contracting Officer Yoder three-tier Model:

I. Calls for better planning and coordination

II. The Yoder three-tier model for contingency contacting:

A. Ordering Officer model

B. Leveraging Contracting Officer model

C. Integrated Planner and Executor model

III. Moving from theory to practice—the "who cares" test

IV. Recommendations and conclusion

SECTION ONE: THE UNIQUE CONTINGENCY CONTRACTING REQUIREMENT

I. Definition of Contract:

A contract is nothing more, or less, than a mutually binding legal relationship. To be binding, a contract must have six elements:

- Offer,
- Acceptance,
- Consideration,
- Execution by Competent Parties,
- Legality of Purpose, and
- Clear Terms and Conditions.[5]

In the United States, these six elements are derived from the Uniform Commercial Code (UCC), State and Federal Law. For DoD Agencies, the concepts are manifest through the Federal Acquisition Regulation (FAR) and implementing regulations and guidance, such as the Defense Federal Acquisition Regulation (DFAR).

While operating within the United States, and, to a large degree, with other international systems, contracting officers will find the six elements are nearly universally recognized. However, the contingency contracting officer may also find that these universal parameters are subject to varied interpretation; therefore, they may be valued as tenets in a significantly different manner than what may be considered customary by domestic and developed international standards.

II. Contract Functions:

Contracts perform a variety of functions. These functions include, but may not be limited to, five areas:

- Evidentiary—a record of the binding agreement,
- Administrative—delineating terms and conditions, payment processes, management, etc.,
- Risk allocation—contract type, monetary and non-monetary incentives, unique conditions,
- Payment—payment criteria and administration, and
- Motivation—positive and negative.[6]

The importance of these functions, especially in the context of the contingency contracting environment, cannot be over-emphasized.

III. "Contingency Operations" defined (statutorily and operationally):

A contingency is an event which requires the deployment of military forces in response to natural disasters, terrorist or subversive activities, collapse of law and order, political

[5] (Cibinic & Nash, 1998, pp. 203-260).

[6](203-260).

instability, or other military operations. Contingencies, by nature, require plans for rapid response and procedures to ensure the safety and readiness of personnel, installations, and equipment.

There are three types of "disasters" to which the international community (including the military) may be called to respond: natural disasters, technological disasters, and complex humanitarian emergencies. According to the United Nations Department of Humanitarian Affairs, complex humanitarian emergencies are defined as, "a humanitarian crisis in a country or region where there is total or considerable breakdown of authority resulting from internal and/or external conflict which requires an additional response that goes beyond the mandate or capacity of any single agency."[7]

Contingencies may exist across the full spectrum of war and during military operations other than war (MOOTW). These could include, but are not limited to: major theater wars, small scale contingencies, domestic and international disaster relief, peace-keeping operations, nation building, stability operations, and other humanitarian operations.

IV. Declared Contingencies—Effects of Declaration:

Contingencies may be officially "declared" in accordance with statute.[8] In accordance with Title 10USC(a)(13), a declared contingency may be:

- designated by the Secretary of Defense when members of the armed forces may become involved in military actions against an enemy of the United States, and/or
- designated by the President or Congress when members of the uniformed services are called on active duty under Title 10 USC, or any provision of law during a declared war or national emergency.

A "non-declared" contingency includes all operations of the Department of Defense other than those described under the aforementioned Title 10. Normally, in the international arena, the State Department declares emergencies which may or may not require official declaration.

The distinction between officially-declared and non-declared contingencies is significant in its impact on contingency-contracting operations. Under officially-declared contingencies, many provisions of the Federal Acquisition Regulations (FAR) and most service regulations and policies are relaxed, streamlined, or even eliminated, making the contracting processes of supporting operations in contingent environments potentially more efficient and effective.

Examples of this streamlining include, but are not limited to:

- Invoking the Defense Production Act/Defense Prioritization and Allocation System (DPPS) which requires U.S.-contracted suppliers to place Government contracts at a priority over all others,
- Possible waiver of the unique provisions of the Competition in Contracting Act (CICA),

[7] (United Nations Dept of Humanitarian Affairs, 2003).

[8] 10 USC (a) (13).

- Allowance for “extra-ordinary” contract actions under FAR Part 50 (adjustments, etc.), and special expediting actions to include the following:
  - Exclusion of synopsis (advertisement) if outside the United States,
  - Utilization of Simplified Acquisition Procedures (SAP) up to $5 million,
  - Elimination of U.S. socio-economic laws and regulations (outside the U.S.),
  - Award of contracts prior to the resolution of protest actions, and
  - Waiver of over 100 statutes relating to Federal contracting.

Whether declared or non-declared, contingencies may exist across the full spectrum of war and during military operations other than war (MOOTW). The varying degrees of contingencies may include, but are not limited to: major theater wars (Iraqi Freedom for example), small-scale contingencies, domestic and international disaster or emergency relief, peace-keeping operations, nation building, stability operations, extraction and/or evacuation operations, and other humanitarian operations.[9]

V. The Nature of Contingent Contracting Environments:

Contingent contracting environments may be classified as either mature or immature. Mature environments have sophisticated infrastructure capable of supporting and sustaining operations. Generally, mature environments have host-nation support agreements, legal frameworks, financial systems able to support complex transactions, robust transportation networks, business capacity and capability, and willing participants. Immature environments, in contrast, have little to no supporting infrastructure. Immature environments may require grooming to bring the infrastructure to desired operational standards, or workarounds (such as bringing a capability into theater) to leverage capabilities.

Most contingencies where military force is required, the “complex humanitarian emergencies” as defined by the United Nations, are in immature environments. In such cases, usually a breakdown of leadership and social order negatively impacts host-nation capabilities, financial systems, transportation systems, business capacity and capability, and willingness of potential participants.[10] By nature, these immature environments, whether immature by nature or by other means, present unique business dynamics and challenges to effective and efficient conduct of business. For instance, underground networks for food, shelter, safety and security, and a loss of traditional motivators to which many domestic businesses are accustomed may create a potentially-difficult situation. Lack of planning can exacerbate problems and degrade mission effectiveness.

VI. Multi-faceted Operations in Contingent Environments:

Within the contingent environment, several key functions may be accomplished. Among prominent functions are diplomatic negotiations, humanitarian relief, refugee support, economic restoration, security and de-weaponization, democratization, and provision of essential services for food, shelter, safety, security and medical needs, as indicated in Figure 1, below.

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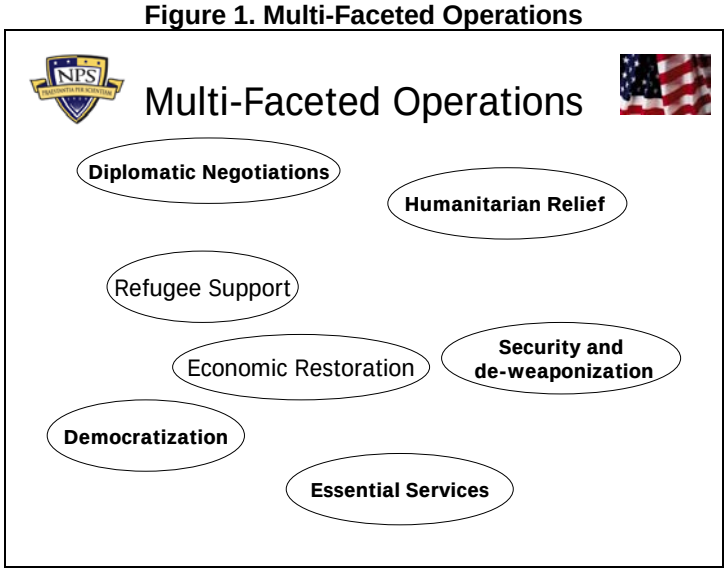
[9] Joint Publication 01-02.

[10] (United Nations Department of Humanitarian Affairs, 2003).

What organizations actually perform these missions? Not just the military! Non-Governmental Organizations (NGOs) and Private Volunteer Organizations (PVOs) are vital sources of relief in immature environments as well. The difference between NGOs and PVOs is as follows: NGOs are defined by the International Red Cross as non-governmental, national and international, and constituted apart from the government in which they are formed. Private Volunteer Organizations are defined by the United States Agency for International Development (USAID) as tax-exempt, non-profit organizations working towards international development, and which receive some portion of annual funding from the private sector.

Figure 1. Multi-Faceted Operations



(Yoder, 2003a)

Generally speaking, most nations prefer the Red Cross definition and, therefore, the NGO designator for defining both NGOs and PVOs.

Several, if not hundreds, of organizations (NGOs and PVOs) may be at work within a contingent environment. The United Nations alone may send the UN Department of Human Affairs (UNDHA), the UN High Commission for Refugees (UNHCR), the UN International Children's Emergency Fund (UNICEF), the UN Development Program and UN Department of Peacekeeping Operations. Other international organizations that may be involved include the World Food Program (WFP), the World Health Organization (WHO), and humanitarian organizations such as Doctors without Borders.

VII. Contingency Contracting Phases (with characteristics):

Development of the Yoder three-tier contingency contracting model requires an understanding of the functions and skill sets to perform successfully.

There may or may not be a formal Operations Plan or Plans (OPLANs) for a given contingency; if not, one should be drafted to include relevant support plans, concept of operations, liaison requirements, and security plans. Surprisingly, the overarching OPLAN for

Operation Iraqi Freedom did NOT include contracting plans in sufficient detail to provide any meaningful concept of operations or direction to contingency contracting support personnel.[11]

Four phases of major operations are adapted from joint publication doctrine for analytical purposes. Understanding the nature of contracted support during the four phases is imperative for defining the functional requirements of any manning model designed to support those functions.

A. Phase I: Mobilization and Initial Deployment:

- initial 30-45 days of operations
- main emphasis on basic life support and security items, including the creation or establishment of:
  - food and water
  - shelter
  - utilities
  - transportation
  - fuel
  - sanitation
  - interpreters and guides, and
  - security
- Liaison with host nation, USAID, local politicians, etc.

B. Phase II: Build-Up and Stabilization:

- commences after Phase I, normally day 45+
- continued priority for basic life support and security items, with additional priority for:
  - construction and infrastructure
  - habitability
  - "quality of life" items (sports, canteens, etc.)
  - establishment of a solid and reliable vendor base
  - contracting control and administration
  - normally, shift from a "push" to a "pull" support strategy
  - greater numbers of mission personnel supported by the contingency contractor

C. Phase III: Sustainment (Post-buildup until Termination):

Phase III may be considered the long-haul event. The duration may range from weeks to months or years, and may become stabilized to the point of resembling a state-side base

[11] (Anderson & Flaherty, 2003).

operation. Contingency contracting operations are robust and standardized, and include the following:

- continued priority for basic life support and security items
- all aspects of Phases I and II, with the addition of:
  - establishing Indefinite Delivery type contracts, Blanket Purchase Agreements (BPAs), etc.
  - improving and refining internal controls
  - increasing competition in vendor base
  - utilizing "pull" contracts for services not available in that particular theater
  - planning and contracting for termination of operations
  - creating "dormant" contracts for contingent or "extra-ordinary" events

D. Phase IV: Termination and Redeployment:

Phase IV continues all of Phases I, II and III, but shifts emphasis to those functions required to terminate operations in an orderly and expeditious manner. This is a particularly challenging phase of operations. There must be a clearly defined "end-state" in order for planners and executors to know how best to organize and execute functions. Phase IV functions include the continued emphasis and requirement for:

- continued priority for life support and security items
- phasing-out earlier priorities with a shift towards:
  - packing and freight services
  - transportation
  - contract termination
  - contract closeout
  - securing audit and accountability prior to exit
  - complementing the overall exit strategy

Identifying a clear and orderly end-state and hand-off to other players, whether those players are the host nation or other agencies including NGOs and PVOs, may be characterized by a return of security, a stabilized economy, and NGOs and PVOs at liberty to exercise their operations and functions. Certainly, less orderly hand-offs have occurred in recent years, including the Somalia situation (*Black Hawk Down* scenario) where an ambiguous end-state was the result of unclear mission requirements and little effective military coordination with NGO and PVO players.

SECTION TWO: THE YODER CONTINGENCY CONTRACTING YODER THREE-TIER MODEL

I. Calls for better planning and coordination:

Several notable calls for better planning, coordination and integration of contracting operations with broader theater-support elements—with intent to more efficiently and effectively accomplish theater objectives—have been postulated. A few of the more prominent calls for better planning and integration include, but are certainly not limited to: first, the Presidential Decision Directive (PDD) 56 entitled, "Managing Complex Contingency Operations"; Rand Report on Civil and Military Cooperation; and several Naval Postgraduate School thesis projects including two supervised and advised by this author.[12,13]

PDD 56 was issued by President Clinton in 1997. This directive determines the integration of planning and execution among Federal Agencies called to perform in contingencies. The problem with PDD 56 is two-fold. First, PDD 56 is not embraced by the current administration. Second, PDD 56 does not apply to combat operations (where the use of military force is required, including peace-keeping and stabilization).

The Rand Report entitled *Civilians and Soldiers—Achieving Better Coordination* proposed greater integration, and identified stakeholders in contingent operations.[14]

II. The Yoder Three-tier Model for Contingency Contracting Operations:

The author proposes three models of employment for contingency contracting officers. Each tier performs unique functions, requires specific education, developed skill sets, and unique personnel and manpower characteristics. Each tier is co-dependent, or integrated in hierarchal manner, on the other tiers. The Yoder three-tier model maximizes effectiveness and efficiency of theater contingency contracting operations, and directly links operations to Combatant Commander (COCOM) broad objectives through integrative planning and execution. (See Figure 2.)

A. Ordering Officer Model. The most basic and simplistic model is the "ordering officer" model. This is the most rudimentary of contracting support, which includes functions such as placing orders against existing theater contracts. By nature, this requires little interactive engagement in the environment, and is best suited for warranted junior officers and enlisted personnel.

B. Leveraging Contracting Officer (LCO) Model. The next higher-level model is the "leveraging contracting officer" model. This level includes the basic ordering functions of the ordering officer model, but includes leveraging the capacities and capabilities of the local and regional economies in the contingent theater. As such, there may be a reduced need for organic service and material support. The practitioner in the leveraging model clearly will be engaged in interfacing with local and regional businesses, creating business processes, and potentially coordinating with higher military, Non Governmental Organizations and Private Volunteer Organizations NGO/PVO and political organizations. With this in mind, only higher-level, more qualified and capable practitioners should perform in the leverage model. A shortfall

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[12] (Coombs, 2004).

[13] (Anderson & Flaherty, 2003).

[14] (Pirnie, 1998).

of this model is that the CCO (Contingency Contracting Officer) operation may or may not be integrated with the broader goals of national and theater objectives. In the worst case, some of the tactical execution may actually be counter to those higher-level goals.

C. The Integrated Planner and Executor (IPE) Model. The highest-level model is the "Integrated Planner and Executor" (IPE) contingency contracting officer. This model takes the leveraging contracting officer function one giant step forward. In this model, well-educated and qualified CCOs are integrated into the operational-planning phases of contingencies, often before actual troop deployment; they then make the transition to operations. The hallmark of the IPE CCO is that contingency contracting operations may be planned and subsequently executed to meet National Strategic and theater objectives. Additionally, the myriad NGOs and PVOs—which, in many if not most cases, are essential to the overall efficiency, effectiveness, and, ultimately, the success of operations—can be integrated into the planning and execution of contingency operations. While this integration requirement may seem painfully obvious, the integrated planning and execution among warfighters, contingent contracting officers, and the NGOs and PVOs is not, and does not occur on a regular and recurring basis.[15]

The author proposes that Integrated Planner and Executor CCO (IPE CCO) be utilized in a broader planning-and-execution environment. The Contingency Contracting Officer, with higher-level certification, education and experience, should be integrated within J-4 and J-5 Logistics and Planning/Operations and Exercise organization structure. Integration is essential to achieve desired synergies between the myriad organizations involved in and participating in contingency environments. Concurrently, operational planners can leverage integration of all theater players (military, NGOs/PVOs, and contractors) to achieve harmony between National Security Strategy (NSS), Combatant Commander (COCOM), and significant NGOs' and PVOs' objectives, through integrated planning, exercising, and, ultimately, execution. This integrative planning, exercising, and execution may: help in eliminating competing (and often conflicting) demands of the participants, closely marry acquisition support with stated objectives, allow for the creation of robust Contingency Contract Support Plans, and integrate such plans into broader operational plans in support of theater operations. The higher-order IPE calls for the most highly-educated and seasoned planners and operational/theater-level planners. Figure 2 highlights the integrative functions among stakeholders that are a hallmark of the IPE. The Yoder Three-tier models described herein are summarized in Table 1.

[15] The author recommends NPS thesis by Anderson & Flaherty.

Figure 2. Integrated Planner and Executor Model

(Yoder, 2003a)[16]

[16] S.W.O.T. is Strength, Weaknesses, Opportunity, and Threat. S.W.O.T is a methodological model for analysis of strategic requirements, found in several management forums, originally presented to the author by Dr. Nancy Roberts, NPS.

Table 1. Yoder Three-Tier Model for Contingency Contracting Operations

Model Tier Level & Model Title	Functions/Education/Rank	Highlights and Drawbacks
Ordering Officer—Tier One	• basic ordering • some simplified acquisitions • training: DAU CON 234 • DAWIA Certified CON Level I or II • junior to mid-enlisted, junior officers, GS-7 to GS-9 1102 series civilians	• simple buys • little integration • no operational planning • no broad liaison functions
Leveraging Contracting Officer—Tier Two	• leverages to local economy • reduces "pushed" material support • training/education: • DAU CON 234, recommended higher education • DAWIA Certified CON Level II or III • senior enlisted, junior to mid-grade officers, GS-11+ 1102 series civilians	• better local operational planning • some integration • more capability for the operational commander • no planned theater integration • no broad liaison functions • may perform to optimize local operations at the detriment to theater ops
Integrated Planner and Executor (IPE)—Tier Three	• highest level of planning and integration—joint • linked/integrated with J-4 and J-5 • creates and executes OPLAN CCO strategy • provides direction to tier two and one • links operations strategically to theater objectives of COCOM • education: Master's degree or higher and, JPME Phase I and II • DAWIA Certified CON Level III, and other DAWIA disciplines (LOG, ACQ, FIN, etc) • senior officers (0-6+), senior civilians, GS-13+ or SES	• performs operational and theater analysis, integrates results into OPLAN • link between COCOM and OPLAN to all theater contracting operations • coordinates theater objectives with best approach to contracted support • can achieve broader national security goals through effective distribution of national assets • includes planning, communication, coordination, and exercising with NGO and PVO in theater

(Yoder, 2004)

III. Moving from Theory to Practice—the "Who Cares" Test.

What organizations might benefit from integration of planning and execution of contingency contracting with broader operational and theater planning?

First, Combatant Commanders (COCOMs) would benefit. These soldiers are generally interested in getting in theater, accomplishing the mission, and getting out! The premise is that without integration, they are not effectively or efficiently utilizing all players and assets capable of providing leverage for their mission achievement. Clearly, they can benefit from integration.

Second, the Joint J-4 and J-5 staffs, which have traditionally focused on "logistics" rather than integrative contracting and logistics, can better achieve logistical support through integration of all theater assets, including contracting.

Third, personnel planners and assigners have a stake in the model. The integrative planner and executor CCO (IPE CCO) inherently demands highly-educated and experienced personnel to fully integrate effectively into the higher-level planning organizations. The IPE CCO could clearly benefit from Master's-level education in at least one specialty, such as Contracting, and concurrently with JPME Phase I and II. This level of qualification is undoubtedly not for everyone. Creating the ICE CCO position within organizations will have a significant impact on the personnel pipeline, including the requirement for higher education, joint qualification, and significant practitioner experience in the joint environment.

Fourth, NGOs and PVOs would benefit from the ICE CCO model. These organizations could develop a better understanding and dialogue with their military counterparts—something that is currently lacking. NGOs and PVOs are sensitive and dedicated to maintaining a perception and often the reality of being wholly detached from a particular government or military. Any close association could damage their "neutrality" and adversely affect their ability to deliver services and supplies. However, they are often inescapably dependent on the military to provide the secure framework, logistics support, and contracting for the conduct of their business. Meshing, or creating harmony of operations, may be a better moniker than integration. Nonetheless, national strategic objectives, theater, and operational objectives of both the military and the NGOs and PVOs require coordination to achieve maximum synergies and the desired efficiencies and effectiveness to meet the collective end-state.

SECTION THREE: RECOMMENDATIONS AND CONCLUSIONS:

The Yoder three-tier model addresses a significant shortfall in current contingency contracting operation support: integrative planning and execution. As is demonstrated in the Anderson and Flaherty project, comprehensive planning in the joint environs of the Combatant Commander's J-4 (logistics) and J-5 (planning and exercising) is currently not being accomplished to any significant degree[1]. Instead, what the acquisition and contracting community is providing the COCOM is a sub-optimized, ad hoc approach to providing contracted theater support.

The Yoder three-tier model calls for the cultivation and utilization of senior officers and civilians with sufficient education, joint qualification, multi-discipline Defense Acquisition Workforce Improvement Act (DAWIA) certifications and other professional qualifications to

[1] (Anderson & Flaherty, 2003).

perform at the highest integrative-planning and execution levels. At the highest level, the Integrative Planner and Executor (IPE) is the essential and critical linch-pin allowing for the development of a comprehensive Contingency Contracting Support Plan (CCSP) that integrates contracting with the broader theater objectives in the Operation Plan (OPLAN).

The IPE, being integrated at the J-4 level, will plan, exercise, and call for adequate theater contingency contracting personnel provisioning (which may vary depending on the phases of the contingency operation) to effectively and efficiently meet theater objectives.

The *primary recommendation* is that the Yoder three-tier model be reviewed and implemented across all services. In order to effectively accomplish this, the author recommends that senior leadership, including at the secretariat level, take pro-active measures to implement the model. Such review and implementation considerations include the following (secondary/implementation recommendations):

- Mandate service implementation of the Yoder three-tier model,
- Fully fund educational and career-development programs which are the hallmark of the Integrated Planner and Executor (IPE) and the Leveraging Contracting Officer (LCO),[2]
- Ensure the services create career incentives for personnel choosing to take positions in support of the Yoder three-tier structure,
- Mandate that the J-4 structure include the IPE, top-level integrative planner and executor, and
- Mandate Joint Professional Military Education (JPME) Phases I and II for personnel at the IPE and LCO model levels.

With increasing demands placed on the contracting community to provide service and theater support, it is imperative that the structures called upon to provide this assistance are effectively designed and staffed to accomplish optimized reinforcement of theater (COCOM) objectives. It is nearly impossible to believe, in any way, that the reactive, ad hoc manner in which theater contracting support is being conducted creates such optimal support. The fact is that little to no contracting planning and tiered execution is conducted. Embracing and implementing the Yoder three-tier model will allow the best structure possible to achieve the synergies necessary to accomplish today's and tomorrow's theater objectives.

It's time to create better planning, execution, and integrated contingency contracting operations!

[2] The Naval Postgraduate School has several career-enhancing master's degrees in fields specifically designed for upwardly-mobile acquisition and contracting officers and civilians.

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Joint Contingency Contracting

Presenter: Major Ken Johnson graduated from the University of Virginia with a BA in Psychology. He obtained his commission in the US Army as a 2nd Lieutenant in May 1992. MAJ Johnson began active duty as an Armor officer and soon attended the US Army Armor Basic Course located in Fort Knox, KY. He then served in the following operational assignments in the 1st Battalion, 66th Armored Regiment at Fort Hood, TX: tank Platoon Leader, Company Executive Officer, Battalion Maintenance Officer, and Battalion Assistant Operations Officer.

Upon completion of that duty in Texas, MAJ Johnson attended the Armor Advance Course at Fort Knox, KY and the Combined Arms Services Staff School at Fort Leavenworth, KS. Following that his operational assignments were with the 1st Brigade, 1st Armored Division at Fort Riley, KS as a Brigade Assistant Operations Officer (Plans), and then as a Company Commander in the 2nd Battalion, 70th Armored Regiment.

MAJ Johnson was accessed into the US Army Acquisition Corps in January 2001. He then served in the Digital Force Coordination Cell (DFCC) at Fort Hood, TX. While in the DFCC MAJ Johnson was the Mounted Maneuver Coordinator and later became the Dismounted Maneuver Chief. His duties included monitoring the status of the Force XXI Battle Command Brigade and Below (FBCB2) systems being fielded to the 4th Infantry Division as they trained to become the Army's First Digital Division.

His next Acquisition Corps assignment was in the Requirements Integration Directorate (RID) at Fort Monroe, VA. This directorate was part of the US Army Training and Doctrine Command (TRADOC). MAJ Johnson served as a Combat Development staff officer and coordinator. His duties included leading Integrated Product Teams to facilitate TRADOC's role in the Unit Set Fielding of Army Force XXI heavy divisions.

MAJ Johnson is currently attending the Naval Postgraduate School in Monterey, CA and will graduate in June 2005 with a MBA in Systems Acquisition Management. In addition, he will meet the curriculum requirements to receive Defense Acquisition University (DAU) certifications from the MBA Acquisition and Contracting Management program. He is Level I certified in Program Management. His awards include the Army Meritorious Medal, Army Commendation Medal, and the Army Achievement Medal. He has also earned the Parachutist Badge.

Presenter: Lisa Haptonstall is a Program Integration Specialist with the Defense Contract Management Agency (DCMA) assigned to Northrop Grumman's Airborne Ground Surveillance and Battle Management Systems (AGS&BMS) facility in Melbourne, FL. She has been with DCMA since March 2000, when the agency was created. When in Melbourne, she is responsible for two US Air Force (USAF) major defense acquisition programs: Joint Surveillance Target Attack Radar System (Joint STARS) and E-10A Multi-Sensor Command and Control Aircraft (MC2A); the USAF's next generation ground surveillance and battle-management weapon system.

Past assignments within the Department of Defense (DoD) include:

- DCMA Northern Europe—United Kingdom (Bristol): Program Integration Specialist, Industrial Specialist and Quality Assurance Specialist
- Defense Contract Management Command (DCMC) Dallas: Quality Assurance Specialist
- Defense Contract Administration Services Region (DCASR) Atlanta, Puerto Rico: Quality Assurance Specialist
- Defense Personnel Support Center (DPSC), Philadelphia: Quality Assurance Specialist

In addition to her work with the DoD, Mrs. Haptonstall's private sector experience includes positions with International Playtex, and she served as a Texas Quality Award examiner from 1993 to 1996.

Mrs. Haptonstall has a BS in pre-veterinary medicine from Delaware State College. She is a graduate of the Defense Acquisition University Advanced Program Managers Course, Simmons Graduate

School of Management Program for Developing Managers, and the Defense Logistics Agency (DLA) Mid-Level Development Program. She is currently matriculated in the Naval Postgraduate School MBA Acquisition and Contracting Management program.

Lisa Haptonstall is a certified acquisition professional and is Level III certified in Program Management and Level II in Production, Quality and Manufacturing. She also holds DLA certifications in Quality Systems in the aircraft, electronics, mechanical, and clothing and textile commodities. Her professional certifications granted by the American Society for Quality include: Quality Engineer, Quality Auditor and Mechanical Inspector.

Presenter: Captain Bryan Paton

Presenter: Captain Kurt Threat

EXECUTIVE SUMMARY

Contingency Contracting has been performed in one shape or another in every war the United States has fought. That being said, are the Department of Defense (DoD), military services, and DoD agencies conducting contingency contracting the best way? Are there areas that can be improved? If so, exactly what area could use improvement? These questions are the backdrop as to why the Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN(RDA)) requested a team investigate and analyze the means by which Contingency Contracting Officers (CCOs) can effectively operate in a Joint contingency environment. In addition, this team has gained information that will assist US Army, Navy, Marine Corps, Air Force, and DCMA's Contingency Contracting Officers (CCOs) in their ability to effectively prepare for contingency operations.

There are many definitions for the word contingency. Specifically, the Contingency Contracting Student Handbook (CCSH) defines a contingency as, "an emergency involving military forces caused by natural disasters, terrorists, subversions, or by required military operations." Since most contingencies are unforeseen events that often require the quick deployment of troops, Contingency Contracting Officers (CCOs) are sent to support them. Saudi Arabia, Kuwait, Bosnia, Kosovo, Iraq, Afghanistan, and Djibouti are some of the many places where the United States (US) has deployed troops since 1990.

Within the Joint, multi-Service, and multi-National areas, CCOs are responsible for acquiring or procuring elements that help to provide combat support, combat service support, and other logistical support to deployed units. Since they are fundamentally contracting officers, they are the only authorized personnel who can obligate government funds. One of the vital ways CCOs get the information they need to execute their part of the mission is from the Contingency Contracting Support Plan (CCSP). The CCSP is the vehicle that describes the support required when troops are rapidly deployed. Part of our research focused on the use of the CCSP at the Service-Component and Combatant-Command (COCOM) levels.

We utilized data collected from a literature review of US Joint contingency contracting polices and guidelines, library information resources, websites, books, and magazines. The researchers also conducted personal interviews with representatives from Joint Staff J4, Office of the Secretary of Defense for Acquisition, Technology, and Logistics (OSD(AT&L)), Secretary of the Air Force (Acquisition), Army Contracting Agency (ACA), ASN(RD&A), Headquarters, Marine Corps, Defense Contract Management Agency (DCMA) Headquarters Combat Support Operations Center (CSOC), DCMA International District (DCMAI), US Central Command

(CENTCOM), and US Pacific Command (PACOM). While the focus of this research was on preparation for contingency operations, we also have recommendations on how the DoD can improve manning, experience, and structure to accomplish contingency contracting operations; one recommendation is creating a Joint Contingency Contracting Command within the DoD to serve as a central point for all contingency contracting.

There are some other keys issues we discovered during our research on contingency contracting. (1) There is contingency contracting guidance from the DoD *and* each service; a combined Joint publication would be useful; (2) Each service and most DoD agencies collect information on lessons learned, some of which is put into the Joint Uniform Lessons Learned System (JULLS), but some components do not make a review of this requirement before a person deploys on a contingency; (3) Some Service Components and COCOMs may not have contracting officers who are fulfilling their proper roles, given the correct responsibilities, or who have adequate education to sufficiently conduct and manage contingency contracting operations; (4) The current structure/organization of Service Components and COCOMs in terms of contingency contracting may need to be altered to better support the warfighter; (5) DCMA CSOC and DCMAI are critical participants on the contingency-contracting team and need clear contingency entrance and exit criteria.

This report covers many issues dealing with joint contingency contracting, but there is still much research that could be done in this area. Options for future projects are: (1) Conducting a more thorough analysis of joint publications and Service-specific information on contingency contracting, (2) Reviewing the background as to why the DCMA was asked to perform contract administration at the beginning of Operation Iraqi Freedom, (4) Conducting a critical analysis on why the DCMA needs clear contingency contracting entrance and exit criteria, and (4) Conducting an analysis as to how each Service and the DCMA can ensure that, for contingency contracting, the right person is put in the right job and has the right education.

KEY WORDS: Contingency, Contracting, Contingency Contracting, Joint Contingency Contracting.

Contractors on the 21st Century Battlefield

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ABSTRACT

Victory in the Cold War brought reduced military budgets and lower end-strengths. Contemporaneously, operations' tempo rose dramatically. This, plus government policies favoring outsourcing, led to a growth in importance of contracted support for military operations, and, correspondingly, an increasing prevalence of contractor personnel in proximity to combat.

This paper reviews the legal status of civilian contractors in proximity to combat; control, discipline and force protection of such personnel, and the impact and cost effectiveness of contract support on combat operations.

Particular attention is paid to the contracting process and its impact on the effective delivery of combat support. The adequacy of traditional contracting policies and processes for combat support functions and the need for possible changes are examined.

The research found there had been a lag in updating policy and doctrine based on lessons learned and that on occasion a "business as usual" approach has decreased the efficiency of contracted contingency support. Serious deficiencies in organization and training for contingency contracting in support of joint operations persist. Contracting in a stressful environment has demonstrated the inadequacy of certain government contracting procedures.

I. INTRODUCTION

The closing years of the 20th Century and the first years of the 21st Century brought new national security challenges to the United States. The Department of Defense contributed to the "peace dividend" occasioned by victory in the Cold War by reducing its force structure and its proportion of the Federal budget. The defense industrial base shrank and consolidated as well. Simultaneously, deployments of military forces in combat and non-combat (military operations other than war) situations reached high levels even before the September 11th attacks and the military interventions in Afghanistan and Iraq. The continuation of the Global War on Terror, initiated after the September 11th attacks, and an elevated operations tempo are likely prospects for the coming years.

The downsizing of the military occurred at the same time as a government-wide trend toward moving the performance of certain (usually excluding "inherently governmental") functions formerly performed by government employees to the private sector for performance, with the government retaining management responsibility. These two trends have contributed greatly to an increase in the military's reliance upon private contractors to perform roles critical to the success of combat operations.

Certain risks and concerns have traditionally been raised in connection with reliance on contractors in support of combat operations. Policy responses to those perceived risks have been and are continuing to be developed. Related policies (e.g., competitive sourcing, focused logistics, and a reliance on increasingly high technology systems) also impact the prevalence, costs, and effectiveness of contracted combat support.

Some of the traditional concerns with "contractors on the battlefield" include the domestic and international legal status of civilian contractors in proximity to combat, control of contractor operations and discipline of contractor personnel, contractor security and force protection, and the impact and cost effectiveness of contract support on combat operations. Combat in Iraq and Afghanistan (as well as other recent deployments of military forces) provides opportunities to do an up-to-date assessment of these traditional concerns.

The contracting process itself has an impact on the effective provision of combat support functions. This paper examines whether combat operations tend to stress or undermine historic principles of government-contract management. A corollary question is whether recent experience suggests some traditional contract rules and policies should be abandoned or modified in favor of a new approach in order to achieve the desired benefits.

II. BACKGROUND—21ST CENTURY WARFARE

With the downfall of Saddam Hussein coming a little over a decade after the Coalition victory in "Operation Desert Storm" or the first Gulf War, the prospects for world peace brought about by American arms seemed almost palpable to some optimistic observers. Ralph Peters wrote in April, 2003: "The basic lesson that governments and militaries around the world just learned was this: Don't fight the United States. Period. This stunning victory did more to foster world peace than a hundred treaties could do."[1] The title of the article in which Peters wrote these words suggested that we had entered a new age of warfare. Subsequent events have confirmed that we are indeed in a "new age," as far as warfare is concerned, but not the sanguine period of Peters' prediction.

The announcement of an end to major combat in Iraq on May 1st, 2003, permitted many Americans to look forward to the establishment of peace and democracy in that country. Unfortunately, violence and bloodshed seemed to accelerate with the end of combat between national armies. The new enemy, whether remnants of the former regime or foreign fighters, engaged in unconventional warfare and targeted non-combatants as well as combatants. For some military theorists who observed and commented upon the evolving nature and growing prevalence of so-called Fourth Generation Warfare, this turn of events was not entirely unexpected.[2]

President George W. Bush has characterized military operations against the Taliban regime in Afghanistan and its Al Qaeda allies, as well as Saddam Hussein's regime in Iraq, as part of a Global War on Terror. Some view the primary adversaries in this war as terrorist political subcultures within Islamic society. A less hopeful view suggests: "these groups represent a broader insurgency within Sunni Islam. This is a true civilizational insurgency in the

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[1] Peters, R.. (2003, April 10). A new age of warfare.*The New York Post*, 1.

[2] Hammes, T. (2004). *The sling and the stone. On warfare in the 21st century*. St. Paul, MN: Zenith Press. Hammes credits Mao with originating 4th Generation Warfare and traces the evolution of its politico-military style of struggle through Viet-Nam, to the Palestinians, and Al Qaeda.

sense that it is a conflict over the civil-religious basis of all Muslim societies""[3] Whatever the exact nature of this insurgency, it certainly has global implications extending from the US homeland to Europe, Africa, the Middle East and distant parts of Asia.

The decade before September 11th, 2001 saw American forces deployed in so-called low-intensity conflicts and "operations other than war," including various peacekeeping or humanitarian missions from the Balkans to Africa and the Middle East. Logistic support was provided to other nations that led similar operations (e.g., East Timor). The case has been made that these deployments are often occasioned by the inherent instability in certain countries and regions that are not integrated into the global economy.[4] If this premise is correct, the US military will continue to have far flung commitments into the foreseeable future.

The potential location of future conflicts and deployments in areas far from the old Cold War battlegrounds, especially in unstable, under-developed areas, means our military must be prepared to adapt to operations in a wide variety of cultural conditions. At a minimum, our military will need the ability to understand the local customs and particularly the language. It may need the ability to hire linguists to aid in the interrogation of prisoners, for communications intelligence, or merely to communicate with the local population and indigenous military forces. The employment of local labor and resources in support of military operations in these under-developed areas may serve the dual purpose of accomplishing mission objectives while also ameliorating some of the economic depravation.

The national security challenges that have already appeared in the "new age" (as well as others that are not difficult to imagine occurring in the future) will require a variety of skills and abilities that are not necessarily the strong points of our military as currently structured. If some variety of Fourth Generation Warfare or other unconventional threat is to be the order of the day, nation building, infrastructure improvement and reconstruction, and communicating to the local populace may become important skills. Other needed skills may include the detection, containment, and clean-up of biological, chemical, or radioactive agents used in attacks abroad or in our homeland. Attacks on infrastructure, such as government or commercial venues, transportation, and pipeline facilities, may affect both civil society and military capabilities. Attacks may be carried out on ships or aircraft, military or civilian, at home or abroad using conventional or unconventional tactics. Some of these examples additionally illustrate that the "battlefield" of the new age may be within our own borders and even when overseas may be somewhere other than at the "front" or "forward line of own troops" (especially given the proliferation of long-range ballistic missiles).

The future is always uncertain and 21st-Century Warfare will undoubtedly have plenty of surprises for us. That truism suggests that the United States will need a military that is very flexible and capable of meeting unanticipated challenges. While conventional military challenges cannot be ruled out, events already evident indicate that a protracted War on Terror, perhaps focused on what some suggest may be a relatively broad Muslim insurgency, is likely. Numerous deployments to regions of instability are also probable. The rapid acquisition of skills

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[3] Vlahos, M. (2002). *Terror's mask: Insurgency within Islam*. Laurel MD, John's Hopkins University, Applied Physics Laboratory, 7. Vlahos' specific view may not necessarily be widely held, but other experts have identified "militant Islam" as the source of a number of potential future conflicts. (2004, December). Transition to and from hostilities. *Defense Science Board* (DSB 2004 Summer Study), 5.

[4] Barnett, T. (2004). *The Pentagon's new map*. New York: Putnam.

and capabilities to address unexpected contingencies will probably be necessary in the evolving threat environment of the future.

The foregoing picture of 21st-Century Warfare, while necessarily hypothetical, strongly suggests flexibility is a key element to be included in future military capabilities. Whether contracted support enhances or degrades military flexibility and effectiveness, thus, becomes a fundamental issue—which raises the question: are current policies, contract management techniques and contracting methods the optimum ones for future operations?

III. POLICIES AND FACTORS DRIVING RELIANCE ON CONTRACTED COMBAT SUPPORT

The active duty military and the reserve forces are much smaller today than at the beginning of the last decade of the 20th Century. From a peak of about 2.1 million, the active force shrank to less than 1.4 million by the year 2000.[5] A similar decline was also reflected in employment in the defense industry and to a lesser extent among DoD civilian employees.[6] Despite events since September 11th, 2001, recent military personnel strength figures are only slightly greater than in 2000, and prospects for large increases are unlikely.[7]

Given the reality of shrinking military end-strengths during the 1990's, a reassessment of the force mix was in order. The shrinking military opted to emphasize the fighting "tooth" rather than the supporting "tail" in the new force mix.[8] This decision in turn suggested the additional measure of providing for necessary surge support for military contingencies by contracting in the non-warfighting areas. The US Army actually initiated a policy calling for Army components to plan and contract for logistics and engineering support services for worldwide contingency operations in the mid-1980's.[9] The first request for contract support under this "Logistics Civil Augmentation Program" (LOGCAP), construction and maintenance of a pipeline and fuel distribution system in southwest Asia, came in 1989. In the mid-to-late 1990's, the Navy initiated a "Construction Capabilities Contract" (CONCAP) and the Air Force a "Contract Augmentation Program" (AFCAP) confirming the trend toward establishing contract programs that could be activated to support contingency operations.[10]

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[5] Department of Defense, Washington Headquarters Services. "DoD's active duty military personnel strength: Fiscal Years 1950-2002." Retrieved from **http://whs.osd.mil/mmid/military/ms8.pgf**.

[6] Gansler, J. (1995). *Defense conversion*. Cambridge, MA: MIT Press, 5. (Figure 1.1 "Defense Employment levels 1965-2001," graphic representation based on Office of Technology Assessment data).

[7] Bruner, E. (2004, May 28). Military forces: What is the appropriate size for the United States? *Congressional Research Service Report*. In 2004, the Bush administration proposed temporary increases in troop strength as opposed to legislated permanent increases. Various proposals have been made, generally limited to increases in the Army and Marine Corps. Actual increases in authorized end strength for FY 2005 were limited to 20,000 for the Army and 3,000 for the Marines (sec. 401, *National Defense Authorization Act for Fiscal Year 2005*, P.L. 108-375).

[8] St. Onge, R., Maj. Gen. (USA, ret.). (2005, January 28). George Washington University conference. *Contractors on the battlefield: Learning from the experience in Iraq*. (hereafter cited as GWU conference). Also Bruner, 2004--see note 7.

[9] U.S. Army Material Command (AMC). (2003, August).. Logistics civil augmentation program (LOGCAP). Pamphlet No. 700-300), 4. LOGCAP was initiated as a program by Army Regulation (AR) 700-137 in December 1985. Contracting actions did not begin until several years later.

[10] Higgins, P. (2003, January-February). Civilian augmentation of joint operations. *Army Logistician*, 35(1). The article contains a description of each service's program (LOGCAP, AFCAP and CONCAP).

While a shrinking military and a decision to have a force mix with more "tooth" and less "tail" was one force driving the Dod toward an increase in contracted logistics and combat support functions. It was not the only one. A half-Century ago, President Eisenhower established that it was "the policy of the Government of the United States to rely on commercial sources to supply the products and services the government needs. The Government shall not start or carry on any activity to provide a commercial product or service if the product or service can be procured more economically from a commercial source."[11] In 1966, this policy was incorporated into Office of Management and Budget (OMB) Circular A-76. The policy was honored in a somewhat desultory manner, receiving more or less emphasis from one Presidential administration to the next and in differing manners among the various agencies. In the last decade, the A-76 policy (as well as its process of "public-private competitions") has gained momentum. Some have suggested that this might be the result of issuance of a substantially revised A-76 "Cost Comparison Handbook" in 1996.[12] But, as noted below, this also may be part of a broader private-sector concern over optimizing business operations and supply chain management that transcends public-sector concerns. Moreover, formal competitions under A-76 have been a tiny minority of "contracting out" actions in the DoD.[13] In any event, an increase in contracting for military logistics and combat support has been, in broad terms at least, consistent with a long-established government policy.

At the same time that military force structure and the procurement budget were in decline, the relative importance of DoD contracting for services was increasing.[14] This was part of a government-wide trend.[15] Increased contracting for combat support services thus is not an isolated phenomenon, but part of a broad trend within the Department of Defense.

For industry, "make or buy decisions" and "contracting out" are not new business strategies. What has changed in recent years is the tempo and nature of "out-sourcing." By some estimates, out-sourcing in the United States grew "at an annual compound rate in excess of 30 percent" during a five-year period spanning the turn of the Century.[16] Moreover, while out-sourcing was once confined to non-core (sometimes called "tactical" or "nonessential") parts of a business, allowing an organization to concentrate on its "core business" or "core competencies," that has begun to change as well. A relatively new phenomenon is "strategic outsourcing" where core activities like manufacturing or logistics are contracted out. An example

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[11] Bureau of the Budget Bulletin No. 55-4 (1955, January). The Department of Defense initiated a "contracting out" program in 1952. Executive Branch policy has been relatively consistent in support of the policy but with varying levels of vigor. Congressional actions have been mixed—swinging from pushing the executive for more action to legislative restrictions or prohibitions on contracting out.

[12] Dempsey, D. (2001, Spring). Best value proposals under OMB Circular A-76. *Proposal Management*. 47.

[13] Gansler, J., Undersecretary of Defense for Acquisition, Technology and Logistics. (2000, Dec. 26). Testimony, US Senate, Armed Services Committee, Senate Report 106-53.

[14] Rush, J. (2003, May). Performance-based service acquisition. Presentation at 2003 Business Managers Conference, Defense Acquisition University. Rush states, by the year 2001, service contracting increased to well over 50% of DoD's total procurement; Lieberman, R. (2000, March 16). Assistant Inspector General, Department of Defense. Testimony, US House of Representatives, Subcommittee on Government Management, Information and Technology. Lieberman states, between FY 1992 and FY 1999, DoD procurement of services increased from $40 billion to $52 billion.

[15] Bruner, (see note 7) noting that by 2001 services accounted for 60% of total government procurement.

[16] CNETNew.com. (2002, September 29). Why out-sourcing is suddenly in. Retrieved February 2005, from www.marketwatch-cnet.com.com/why+outsourcing+is=suddenly+in/2009-1001_3-959785.html.

of this was IBM's decision to out-source (to Sanmina-SCI) the manufacture of its desktop PC—once the core of its business.[17]

It seems unlikely that the trend to out-sourcing in private industry is a fad; nor is it based on a philosophical preference for contracting out. The reason for the increase in out-sourcing is that it makes business sense and contributes to efficiency and the bottom line. In government there is indeed a philosophical bias in favor of out-sourcing functions and products available from the private sector ("a government should not compete against its citizens"); but, increases in out-sourcing (as well as a trend toward "competitive sourcing"—in which increased efficiency, whether in- or out- of house performance results, is the goal) also has a strong financial component.[18] The Office of Federal Procurement Policy has estimated annual savings from competitive sourcing, if fully implemented, could amount to $5 billion.[19]

The Army initiated a policy requiring its components to plan for contracted engineering and logistic support for contingency operations in 1985.[20] This was prior to the end of the Cold War, or major declines in defense spending and force structure. This timing suggests such a policy had merits even in an era prior to those declines. The policy and practical considerations reviewed above reinforced that notion in the context of an evolving national-security environment. The trend to out-source is countered to some degree by a Congressionally-based policy embodied in law (10 U.S.C. 2464) that certain "core logistic functions" be retained for in-house performance; however, the terms of the law primarily addresses CONUS-based depot functions and are not specific to combat support or contingency operations.

The potential exists for a contracted supply chain to extend from "factory to foxhole." Even if it is (as some profess) inadvisable to extend contracted support to that degree, contractors can perform vital functions in the battlespace[21]; and the DoD and its components have developed various policies addressing the use of contractors in support of military operations.[22] Important questions about the proper role for contactors in combat situations involve high-level policy issues and are likely to remain controversial. They color any discussion of the general subject area, including the focus of this research.

To summarize: "The combined effects of defense budget cuts, force reductions, reengineering initiatives, the privatization of duties historically performed by military personnel, the introduction of increasingly complex technology, and increased mission requirements and operational tempo have shifted the [contractor-government] mix of support needed to carry out

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[17] CNETNew.com. (2002, September 29).

[18] Gansler, J. (2003, June). Moving toward market-based government: The changing role of government as the provider. IBM Center for the Business of Government. "Competitive sourcing" chapter contains a general discussion of competitive sourcing and examples of savings.

[19] Safavian, D. (2005, January 25). Administrator, Office of Federal Procurement Policy. Correspondance to Richard B. Cheney, President of the US Senate. [no subject].

[20] See note 9.

[21] General Accounting Office. (2003, June). Contractors provide vital services to deployed forces but are not adequately addressed in DoD Plans. GAO-03-695. Hammes, Thomas (GWU conference, note 8) commented that one contract to support the Iraqi Army actually specified ammunition was to be delivered to company level.

[22] Department of Defense, Joint Chiefs of Staff. (2000, April 6). Doctrine for logistics support in joint operations. Joint Publication 4.0; Continuing essential DoD contractor services during crises. (1990, November 26). DoD Instruction 3020.37.; Contractors on the battlefield. (2000, March 26). Army Field Manual No. 100-21. (superceded on Jan. 3, 2003 by Field Manual 3-100.21, same title) and, other publications.

mission objectives in a theater of operations. The supported combatant commanders and the services are beginning to recognize the extent of their reliance on non-uniformed support."[23] See Appendix I for examples of services contracted in support of contingency operations.

The following sections review the critical issues impinging on contract performance in proximity to combat. An assessment of contract management, contract oversight, and the policy and regulatory regime-controlling contractors in recent combat-support operations will be made and the implications for future policy developments discussed.

IV. CONTRACTOR ISSUE REVIEW

In the 1990 motion picture *Dances with Wolves,* Lt. John Dunbar (Kevin Costner) is accompanied to his post on the mid-19th Century American frontier by a civilian wagon driver. The wagon contains the weapons, ammunition, subsistence and other supplies necessary to maintain a deployed military force. On the return trip, the civilian teamster encounters a hostile force of Indians and is killed. The empty wagon is left abandoned and the horses captured.

Unanswered by the film were some of the kinds of questions that arise when contractors venture to dangerous places. Were there troops available that might have escorted the wagon both on its outbound and return journey? Was the trip even recognized as dangerous? Would the driver have refused to go if he understood the risk? Did the driver receive premium pay or some special compensation for undertaking hazardous duty? Who pays for the lost wagon and horses? Did the Indians target the driver because of his association with the military or was his mere presence on their land sufficient cause to attack him? Did it make good sense to use a civilian driver under the circumstances?

The kind of support provided by the civilian driver in *Dances with Wolves* is not fundamentally different than contracted transportation services that have supported military operations before and since. Issues inherent in the questions mentioned above also retain their currency even if they are only exemplary of a broader range of issues.

The teamster in *Dances* is an example of what it has become common to call a "theater support contractor." The other principal categories of combat support contractors are "external support contractors" and "systems contractors." These categories[24] are merely descriptive and in no way definitive or all-inclusive, but for purposes of this paper they are conceptually useful. They are introduced here because the issues discussed below may apply more critically to one category of contractor compared to another.

The theater support contractor provides services to deployed forces to meet the immediate needs of the operational commander with contracting typically conducted under the authority of the theater commander. The support provided is typically "house-keeping" and quality-of-life support for the troops, as well as minor construction, port operations, transportation and security.

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[23] McPeak, M. & Ellis, S. (2004, March-April). Managing contractors in joint operations: Filling the gaps in doctrine. *Army Logistician,* 36(2).

[24] Hamontree, S. (2002, June). Contractors on the battlefield. *Armed Forces Journal* (one of many examples discussing the three categories). Fortner, J. & Jaeckle, R. (1998, November-December). Institutionalizing contractors on the battlefield. *Army Logistician*, 31(6) (an example where theater support and external support contractors have been lumped together as contingency contractors, reducing the categories to two).

External support contractors support deployed forces by augmenting military capabilities through contracts administered outside the theater. These may include pre-placed umbrella contracts (such as LOGCAP, CONCAP and AFCAP) that can be activated on short notice. In some cases the type of support under contract is similar to that just described for the theater support contractor. In that case, the principal distinction between the two is the source of contract authority rather than the type of services provided. In other cases (e.g., Civil Reserve Air Fleet or commercial sealift), the type of support provided is distinct from any available in-theater. While both the theater and external support contractors are "contingency contractors," for the purposes of this paper they are sufficiently different to be accorded separate status.

Systems contractors provide support to weapons systems and other systems usually under contracts with the relevant system program manager. Mission-enhancing and mission-essential maintenance and operations services are typically provided. These contracts often involve sophisticated technical expertise unavailable or of limited availability within the uniformed military.

A. INTERNATIONAL LEGAL STATUS

International law, specifically the Law of Armed Conflict (Law of War),[25] and, primarily, Geneva Conventions dealing with prisoners of war (Geneva, III) and civilians on the battlefield (Geneva, IV) have profound implications for contractor personnel serving in or near the battlespace. The Geneva Conventions deal primarily with international conflicts between national states. However, certain of their provisions deal with internal conflicts as well. Given the nature of 21st-Century warfare and recent experience in Iraq and Afghanistan—where international conflicts evolved into insurgencies—this is a distinction worth noting.

So-called "common article 3" (it appears in each) of the Geneva Conventions applies to internal conflicts, and gives a protected status to non-combatants. Persons protected by article 3 are entitled, at a minimum, to humane treatment if they fall into enemy hands.

Uniformed military personnel (except chaplains and medical personnel) are legitimate combatants. They may carry arms and legitimately engage in combat. They are legitimate targets for the enemy. If captured, they are entitled to prisoner-of-war status.

In general, properly-identified contractors are non-combatants who may accompany military personnel into hostile situations but not "take up arms" (engage in combat). They must carry an identity card in a format established by the convention that identifies them as a civilian authorized to accompany the force and confirms their noncombatant status. United States policy regarding these identity cards is found in DoD Instruction 1000.1, "Issuance of Identity Cards Required by the Geneva Conventions." If captured, an authorized civilian accompanying an armed force is entitled to prisoner-of-war status.

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[25] Kentucky University. AMDOC: Documents for the study of American history. Retrieved January 2005 from, www.ku.edu/carrie/docs/geneva.html. This document contains a compilation of relevant treaties making up much of the International Law of Armed Conflict (Law of War). Newton, M. (ed.). (1998).*Operational law handbook*. Charlottesville, VA: The Judge Advocate General's School. This book contains a compilation of references to relevant documents with full citations as well as a discussion (in chapters 7-11) of the Geneva Conventions and other general principles. Zamperelli, S. (1999, March). Contractors on the battlefield: What have we signed up for? AU/AWC/254/1999-04. Air War College Research Report, 18-23. This text contains a discussion of international law issues specific to contractors.

In addition to combatants (recognized by international law) and non-combatants, the activities of some persons on the battlefield may result in them becoming illegal combatants. A combatant who violates the laws of war can become an illegal combatant and subject to criminal prosecution. A civilian contractor who engages in combat without authorization becomes an illegal combatant. Such persons are not privileged to engage in combat and; by doing so, their acts constitute crimes (murder, assault, destruction of property etc.) recognized in national and international courts. If captured, they are not entitled to prisoner-of-war status and may be tried as criminals in the courts of the country capturing them.

Civilians accompanying the force have traditionally been viewed as non-combatants subject to the proviso that they may not "take up arms." Here the situation starts to become murky. Carrying a sidearm exclusively for purposes of self-defense is allowed.[26] Use of the weapon in an unauthorized manner, rather than its possession, becomes the determinant of legality.

Another pitfall is the proximity of civilian personnel to military personnel in combat situations. An army guide for civilians states: "civilians who accompany military forces into a theater of operations lawfully may do so, but are likely to be considered by enemy forces as combatants. Depending on their function or actions, they are subject to attack or capture."[27]

Another area where distinctions become blurred is battlefield support for weapons systems. A contractor that provides support for a weapon system when it is in actual use in combat may well be considered a combatant. Other activities that directly support the use of weapons systems, such as the collection and dissemination of surveillance data, intelligence, and targeting information, may also cross the line.[28] Army guidance suggests that over the recent past: "the concepts of 'combatants' and 'noncombatants' have evolved[,] and their applicability to the realities of today's contingency and warfare settings have made them somewhat outdated."[29] As the technology of military forces has increased, so has the number of civilians with the force. The army guidance asserts the status of civilians with the force has not been adequately addressed in the Law of Armed Conflict and that their "precise status and the actions they are entitled to take remain unsettled."[30] The unfortunate consequence of this perceived lack of precision is that, depending on their actions, not only may civilians supporting combat operations be considered combatants by the enemy, but also they may become illegal combatants under international law.[31]

Sending contractor employees into situations where they are likely to become illegal combatants not only seems to invite serious risk for the employees and their companies but also

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[26] DoD. (1992, April). Emergency-essential DoD US citizen civilian employees. DoD Directive 1404.10, para. 6.9.8 (although applicable to civilian employees, the policy positions taken regarding international law are applicable to contractor employees as well).

[27] U.S. Army Material Command. (undated). Civilian deployment guide. Retrieved January 2005, from, "www.Amc.army.mil/amc/pe/html/civdeploy.html (addressed to civilian employees but relevant to contractors accompanying the force).

[28] McCullough, J. & Pafford, A. (2002, June). Contractors on the battlefield: Emerging issues for contractor support in combat & contingency operations. Briefing Papers (02-7). West Group, 14.

[29] See note 27.

[30] See note 27.

[31] See note 28.

may be inconsistent with United States' obligations under international law. One seemingly obvious answer is to simply designate contractors at such risk as combatants. This was the position taken some years ago not only by the United States but also by the United Kingdom, Australia and Canada.[32] Unfortunately, this position is not tenable under international law. The International Committee of the Red Cross (ICRC), the international organization that administers the Geneva Conventions, has taken the position that even if contractors meet three of the four criteria for a legal combatant under the third Geneva Convention, they fail to meet the requirement to be under "responsible command."[33]

The ICRC position is that there is no "responsible command" within a corporation and, moreover, that respect for the Laws of Armed Conflict is a state responsibility rather than a corporate one.[34]

The discussion above suggests that those responsible for writing the statements of work of contracts for combat support (as well as the rules of conduct or other general guidance for contractor personnel in a combat theater) need to have a clear understanding of US obligations under the Laws of Armed Conflict. Sensitivity to the serious risks that may befall contractor employees who are directed to engage in activities that constitute "taking up arms" under international law is also essential. The foregoing comments, however, apply fully only in inter-state conflicts governed by the Geneva Conventions. In insurgencies where captives are mutilated and beheaded and even workers engaged in purely humanitarian efforts are murdered, it may be that a more robust posture for contractor employees is in order.

In addition to overarching international law, certain multi-lateral and bi-lateral international agreements and foreign laws may impact contractors. The United States has entered into Status of Forces Agreements (SOFA) with a number of countries. These govern the role of the forces of the sending nation and the host or receiving nation. Generally SOFAs deal with the status of the military personnel, civilian employees and their dependants of the sending force, but some also apply to contractor personnel as well.[35] SOFAs typically deal with routine matters such as entry and exit of personnel and their belongings, applicability of labor laws and exemption from taxation. Another important area covered by SOFAs is the allocation of civil and criminal jurisdiction between the states concerned. Contractor personnel in a country without a SOFA or with a SOFA that does not address contractors will be subject to the criminal jurisdiction of that country. Further mention of criminal jurisdiction will be made under the section on control and discipline issues below. Absent SOFA coverage (or some other provision limiting local jurisdiction), contractors are generally subject to the laws of friendly host countries. In zones where no national authority is recognized (conquered territory before reestablishment of civil authority), contractor personnel may be subject to certain US laws that have extra-territorial effect but too little other legal authority.

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[32] See note 27. The British have partially dealt with this issue by a policy of "sponsored reservists" whereby deployment contractors are required to employ reservists who will occupy key deployment positions (Chiefs of Staff. (2001, December). Contractors on deployed operations. Joint Doctrine Pamphlet 4/01. United Kingdom: Ministry of Defense.).

[33] Kruesi, A. Legal issues and liabilities. Presentation at GWU conference (note 8).

[34] see note 33.

[35] McCullough (note 26), 5. Newton (note 28), chapter 12, contains a general discussion of SOFAs and other international agreements. See also, "Contractor Deployment Guide." Department of the Army Pamphlet No. 715-16, Feb 27, 1998.

B. CONTROL AND DISCIPLINE OF CONTRACTORS

Historically, the main criticism against obtaining combat support from contractors was that when the going got tough, the contractors would go too—and leave the military in the lurch. In a letter to Congress in 1818, Secretary of War John C. Calhoun spoke of contractors "subject to no military responsibility" and upon whom there was no hold other than "the penalty of a bond." He went on to assert "it is often the interest of the contractor to fail at the most critical juncture."[36]

Echoes of Calhoun's concern still exist. A DoD instruction on continuation of contractor services during crisis enjoins commanders to conduct contingency planning to deal with a failure in contractor performance.[37]

The most basic form of control and discipline is the sanction of criminal law. Congress provided for application of military law to persons accompanying the armed forces overseas in the original enactment of the Uniform Code of Military Justice, but this provision was overturned by the US Supreme Court.[38] This lack of jurisdiction has long proved troublesome,[39] and a few years ago Congress attempted to address the problem by enacting the Military Extraterritorial Jurisdiction Act of 2000 (MEJA).[40] This provides that a person accompanying the armed forces outside the United States, including a contractor employee, who commits an act that is punishable under US law by imprisonment for at least a year may be tried for the offense in US federal district court. Yet, this is hardly a panacea as far as the discipline of contractor employees is concerned. The decision to prosecute does not rest with the military commander and, while the provision may be utilized for very major offenses, the requirement to have a trial in a US district court when the offenses occurred and the witnesses and evidence are overseas suggests such trials would be logistically difficult. Minor offenses, less than a year in prison (even a whole series of such offenses), are not even covered. This statute appears to be more of a gesture than a serious vehicle to assert control over civilian contractors accompanying the force.

Given the structure and probable ineffectiveness of MEJA as a tool for the discipline of contractor employees, the commander is left where he was before the enactment of MEJA with no direct command relationship to contractor employees. The sole recourse for the discipline of individual contractor employees is an indirect one through the contract and their employer.

Since MEJA or other laws with extraterritorial effect may actually be invoked for major crimes (murder, treason, significant crimes of theft or property destruction, etc.) the real concern would seem to be with mid-level crimes and repeated minor offenses. Contract terms should assure that the operational commander can declare individual employees *persona non grata* for cause and have them removed from the theater. Likewise, commanders should be able to deny

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[36] As cited in Nagle, J. (1992). A history of government contracting. Washington, DC: George Washington University, 109.

[37] DODI 3020.37 (see note 22)

[38] Reid v. Covert, 354 U.S. 1 (1954).

[39] Gibson, S. (1995.) Lack of extraterritorial jurisdiction over civilians: A new look at an old problem. 148 Mil. L. Rev. 114.

[40] Public Law 108-523, 114 Stat. 2488 (2000) codified at 18 U.S.C. 3261-3267.

specific contractor employees' privileges, generally afforded such employees, when warranted by abuse of privileges or in order to correct inappropriate behavior.

The very limited (virtually non-existent) authority of a military commander over contractor employees as discussed in the preceding paragraphs seems to demonstrate that the position of the ICRC discussed in the international law section is correct. The only "chain of command" for a contractor employee is in the employee's company, an entity that neither is nor can become a party to the Geneva Conventions.

Secretary Calhoun's criticism of contractor performance was not so much directed at the dereliction of individual contractor employees as it was at the prospect that companies would default on performance when difficulties in performance and the profit motive dictated that it was more economic to forfeit a performance bond than to continue delivery under the contract. The existence of the bond referred to by Calhoun is strong evidence that the supply contracts he was objecting to were fixed-priced, completion contracts. In this sense, Calhoun's comments are somewhat outdated compared to much of current practice. Nonetheless, in emphasizing the performance of the contract, rather than the misconduct of individuals, Calhoun's letter directs us to a key point.

In contrast to Calhoun's objections to contracting in the War of 1812 and the Indian Wars, modern contracting has a number of contracting techniques available to reduce the contractor's risk of significant or even catastrophic losses in uncertain and high-risk situations. These include cost-reimbursement contracting with various forms of fee arrangements (Federal Acquisition Regulation, FAR 37.602-4). Also potentially available is indemnification under Public Law 85-804. If a contractor is reimbursed for the legitimate costs incurred, has a potential for some profit, and if the threat of catastrophic liability is removed, a contractor has little financial incentive to default on his contract. Obviously, if these conditions are not met and a contractor faces open-ended and undefined financial risks, the relative incentive to perform or default may be different.

Combat support contracts are typically service contracts. One expert has said: "Service contracts are hard to write and difficult to manage."[41] Combat support contracts are critical to the needs of the combatant commander and, yet, management and control of contract performance is often vested in officials outside the chain of command of the operational commander or even the theater commander. How can such a system be made to work?

In our highly regulated federal procurement system,[42] it is sometimes easy for onlookers to overlook the fact that it is supposed to be a system of *contracting*. The essence of contract law, as it emerged in its modern form in the 19th Century, was *freedom of contract;* and the very definition of a contract was that of legally enforceable *promises*.[43] In contracting, individuals (on behalf of themselves or the organizations they represent) freely make promises in a manner that creates legal obligations—creates law—between them. This creates a *relationship* among the people affected by the contract, particularly in service contracting. Inter-personal relationships

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[41] Schooner, S. Remarks at GWU conference (note 8).

[42] Nagle (note 36) mentions the "burdensome mass and maze of procurement regulations" found by the Commission on Government Procurement (pp. 510-511) and asserts, despite many commissions and attempts at reform, things have remained "remarkably the same" (p. 517).

[43] Mallor, et al. (2000). *Business law*. McGraw-Hill, 198-200.

and the identification of a community of interest may play a key role in the successful management and control of contract performance in contingency operations.

Part 1 of the Federal Acquisition Regulation (Title 48 Code of Federal Regulations, 48 C.F.R. Parts 1-53, generally referred to as FAR) makes reference to an acquisition "team" (FAR 1.102-3&4). The FAR mentions "cooperative relationships" between the government and contractor and suggests the "contractor community" follow a pattern specified for the "government acquisition team." The concept of a team, teamwork and cooperative relationships may allow for exactly the kind of community of interest, inter-personal relationships, and flexibility to make combat-support contracting work well.

Parts 1 and 2 of the FAR establish the primacy of the contracting officer in making key decisions in government contracting—and particularly in obligating public funds. The contracting officer has the sole authority to execute modifications to the contract (FAR 43.102). The FAR also states the contracting officer should be "allowed wide latitude in exercising business judgment" (FAR 1.602-2). However, prior to this is the requirement for the contracting officer to "ensure that all requirements of law, executive orders, regulations and other applicable procedures, including clearances and approvals have been met" (FAR 1.602-1(b)). Recalling the discussion of the various types of combat support contractors and that contracting authority (the contracting officer and those superiors from whom the contracting officer may need to seek various approvals and clearances) may reside outside the theater, suggests the question of how effectively regulatory requirements support a team/relational concept for maintaining control of contract performance in a battlefield environment.

In the final analysis, a combat-support service contractor has the similar incentives to perform as any other contractor. These include profit, the general reputation of the company in the business community, and the hope for repeat business from the government. Disincentives include unknown or open-ended financial risks, and the undue risk of death or harm to contractor employees. In addition to the normal incentives to perform, there is considerable evidence that many contractors, and particularly their employees (often ex-military personnel), currently engaged in combat-support work do so out of a sense of patriotism (and, therefore, are not likely to "bail out").[44]

C. CONTRACTOR SECURITY AND FORCE PROTECTION

A second concern about contracted combat support is that the presence of contractor employees in a combat-support role may negatively impact military capabilities by diverting available troops in order to provide protection to contractors. Under joint military doctrine, force protection for contractor employees is considered a contractor function.[45] Service guidance, however, recognizes that in certain cases it is the responsibility of the cognizant commander to ensure protection for contractor personnel.[46]

Intuitively, it seems correct that the presence of contractor personnel in proximity to combat may require military forces to provide additional protection (beyond what is already

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[44] Taylor, C. (Vice-President, Blackwater USA). Remarks at GWU conference (note 8).

[45] JCS "Doctrine…" (see note 22).

[46] Contractor support on the battlefield. (1999, August 4). *Army Field Manual* 100-10-2; Secretary of the Air Force (2001, February 8). Contractors in the Theater. Interim Policy Memorandum.

provided for the military). Upon reflection, however, this is clearly not always the case. Contractor personnel serving aboard a combatant vessel or exclusively in a compound under military protection do not constitute an addition burden as far as force protection is concerned. On the other hand, a supply convoy traversing potentially hostile terrain may need military escort whether supply truck drivers are military or contractor personnel.[47]

Even in instances where force protection measures specific to contractors must be taken, the appropriate question seems to be whether the value added by the presence of such personnel justifies the military burden imposed. Moreover, requirements for force protection may be mitigated by certain contract terms that direct contractors provide self-defense capabilities and various protective measures for their employees.

Whether traditional concerns in the area of contractor force protection are a major negative factor in widespread use of contractors in proximity to combat or whether appropriate policies, planning, and management considerations can address these concerns is a subject for further review.

D. OTHER ISSUES

As mentioned earlier, and documented in a number of the notes accompanying this text, the DoD has developed and continues to develop policies and doctrine related to contractors and contingency operations. At a high level, the controlling policy states: "The DoD components shall rely on the most effective mix of the total force, cost and other factors considered, including active, reserve, civilian, host-nation, and contract resources to fulfill assigned peacetime and wartime missions."[48] This begs the question of what is "the most effective mix" and whether current doctrine, policies, planning, and, management techniques and procedures result in that most effective force mix, in terms of cost and other factors.

Policy development concerning contractors in contingency operations has occurred at different rates at the DoD level and among the military departments. DoD policy is currently under revision;[49] among the services, policy exist in various states of maturity and completeness.[50] As was noted in the case of force protection, joint doctrine and service guidance are not always consistent.[51]

From August 2002 to April 2003, the General Accounting Office (now Government Accountability Office) conducted a review of contractor support in a number of locations in the

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[47] Schumacher v. Aldridge, (C.A. 86-2015-LFO, D.C. 1987). The US District Court found that civilian members of the Merchant Marine during World War II suffered a higher casualty rate than any of the uniformed services except for the Marine Corps. Merchant ships were armed (sometimes with civilian gun crews) and escorted. The "force protection" was provided to safeguard the ships and their cargoes and, incidentally, the crews. After the attack on the U.S.S. Cole, according to Chris Taylor (GWU conference, note 8), the Navy sought the assistance of a private security firm to train its personnel in force protection. The same private company, rather than the military, provided security for Ambassador Bremer and officials of the Coalition Provisional Authority in Baghdad.

[48] DODI 3020.37 (see note 28).

[49] Wynne, M. Acting Undersecretary of Defense for Acquisition, Technology and Logistics. (2004, June 24). Prepared statement, US House of Representatives, Committee on Armed Services; Contractors accompanying a deployed force. (2004, March 23). Notice of Proposed Rule Making. *Federal Register*, 69(56).

[50] McCullough (see note 28) notes much of recent service guidance. See also notes 22, 26 and 46.

[51] GAO (see note 21).

Persian Gulf region and the Balkans.[52] As of the close-out date of that report, the GAO found only the Army had developed substantive guidance for dealing with contractors. GAO found that DoD acquisition regulations do not require specific contract language to cover overseas deployments or possible changes in deployment locations for contractor employees. Of 183 contractor employees preparing to deploy to Iraq to support an Army Infantry Division, some did not have deployment clauses in their contracts. At sites visited in Bosnia, Kosovo, and the Persian Gulf, GAO found contract oversight generally adequate; but noted inadequate training among staff responsible for overseeing contractors, and a limited awareness by some field commanders of contract activities taking place in their area.

The GAO review found that DoD could not quantify the totality of support that contractors supply to deployed forces around the world. GAO also found that, with a single exception, DoD and its contracting activities had not identified those contractors that provide mission essential services and, where appropriate, developed back-up plans to ensure essential services would continue if the contractor should become unavailable (despite the fact that DoD Directive 3020.37 requires a risk analysis/mitigation planning process).

This review of traditional concerns and some recent developments in the area of "contractors on the battlefield," while hardly comprehensive, should provide a basis for assessing some of the concerns expressed about civilian contractors in proximity to combat in the light of recent experience. The remainder of the paper will review selected examples of recent contracting experience and attempt to determine if traditional concerns are valid and what additional issues may have become important. This will be followed by an analysis of the most pertinent contracting issues.

V. RECENT EXAMPLES

This section collects examples, some in the form of short case studies and others as issue briefs or discussions, in an attempt to assemble sufficient data to support identification of pertinent issues and as a basis for meaningful analysis and recommendations.

A. IRAQ

1. Contractor Reliability

One of the chief traditional concerns with contract support for military operations is that contractors will abandon their contract work under difficult conditions. The author has been unable to find a single example of a combat support contractor abandoning its contract in Iraq. However, there are a wide variety of other contracts in place in Iraq (including those for Iraqi reconstruction) placed under the auspices of various US Government agencies (DoD included), the former Coalition Provisional Authority (CPA) and the Iraqi government. While reconstruction contracts do not directly support US troops, they are important to the long-term success of US involvement in Iraq and are currently being performed in a hostile environment similar to combat support contracts.

[52] GAO (see note 21).

In December 2004, Contrack International, Inc., an international construction company, suspended its performance under a major Iraqi government contract.[53]

Work was suspended according to the company because "the original scope of work […] could not be executed in a cost effective manner under present circumstances." The contract, awarded in March 2004 by the CPA, had a potential value of $325 million. The work was spread throughout Iraq and involved rebuilding airports, highways, ports, bridges and railroads. The contract was structured as an indefinite-delivery, indefinite-quantity (ID/IQ) contract. Specific projects are specified in task orders that in construction contracts are typically fixed price. Contrack joined a small number of non-profit groups and small contractors that requested cancellation of their reconstruction contracts. In the case of Contrack, it was paying more for security than the actual cost of construction.[54] Despite continuing concerns about security and insurance issues among Iraqi reconstruction contractors, as of this writing there have been no additional pullouts.[55]

Among the American citizens employed by combat-support contractors, virtually all are volunteers. According to some reports, field service representatives who work along side soldiers in the field are motivated not only by financial incentives, but by pride and patriotism.[56] In other cases, such as the truckers who transport supplies from Kuwait to Baghdad, high pay is their primary motivation for service in Iraq.[57] Truckers employed by Kellogg, Brown & Root (KBR) perform reliably, despite as many as one in three convoys coming under attack, and the death of several of their comrades.[58] Security concerns have resulted in delays, and adjustments in security arrangements have been required, but these have generally been handled amicably between the contractor and the Army.[59]

In contrast to the reliability of the KBR truckers, a platoon of an Army Reserve Quartermaster Company refused to take their trucks on an assigned supply mission.[60] Apparently there were some extenuating circumstances since the soldiers involved received non-judicial punishment rather than courts-martial.[61] Still the contrast seems stark as the soldiers' company had been in Iraq ten months without suffering any casualties while, as noted above, KBR truckers had come under attack on numerous occasions, and suffered a number of casualties.

The record of contractors and contractor employees in Iraq to date does not predict future events. From general news reports, one can see the security situation in Iraq remains

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[53] Contrack backtracks from Iraq contract. (2005, January 5). *The Government Contractor*, 47(1).

[54] Nichols, R. (2005, February 2). Iraq reconstruction. Presentation. Washington, DC: West's Government Contracts Year-In-Review Conference. Also *Conference Briefs* (same conference), 3-15.

[55] Iraq reconstruction contracts geared toward short term; No word on further contractor pullouts. (2005, January 26). *The Government Contractor,* 47(4).

[56] Wilson, J. (2004, July). Sharing the risk. *Armed Forces Journal*, 26.

[57] Truckers in Iraq. (2004, September 27). *The New York Times*, 1.

[58] Truckers in Iraq. (2004, September 27). *The New York Times*, 1.

[59] Soloway, S. President, Professional Services Council. (2005, February 17). [e-mail exchange with author]. Edgewater, MD.

[60] Lumpkin, J. (2004, October 16). Unit refused Iraq mission military says. *Associated Press*.

[61] Garwood, P. (2004, December 7). US reservists who refused duty escape courts-martial. *Associated Press.*

tense and is one of several challenges to doing business in Iraq. It remains to be seen whether current contractors will renew their contracts or compete for additional work, and whether new contractors will consider Iraq a good place to do business.

2. Abu Ghraib

In May 2004, the public became aware of a prisoner abuse scandal at Abu Ghraib prison west of Baghdad.[62]

Subsequently, there were numerous media reports as well as official investigations (Fay and Jones investigations) and scholarly inquiries (including a paper by Prof. Steven Schooner) into the physical abuse and sexual degradation that occured.[63] A minority of the allegations of the abuse involved the employees of two contractors performing tasks at the prison. While this incident provides an example of control and discipline problems among contractors and contractor employees, it should be kept in mind that most of the abuse occurred at the hands of government personnel, and the various official investigations found major deficiencies in leadership, lines of authority, and training among the military and non-military government personnel involved. Without excusing the conduct of either government or contractor personnel, a review of the investigations and documentation relating to the situation at the prison (number of detainees, lack of facilities and properly trained personnel, etc.) suggests conditions there were, at times, extremely difficult and verging on chaotic.

There were two pertinent contracting vehicles involved in the Abu Ghraib scandal. One was a pre-planned contract to provide linguists to support current and contingency intelligence operations. This contract was awarded by Army Intelligence Command to Titan Corp. in 1999. The second consisted of a series of delivery orders awarded under a Blanket Purchase Agreement (BPA) between the National Business Center/Dept. of the Interior and CACI under a General Services Administration (GSA) schedule contract for various information technology professional services (this connection is not as odd as may first appear—the National Business Center contracting office, a fee-for-service organization, and the Army Intelligence School that trains interrogators are co-located at Ft. Huachuca, Arizona). Rather than information technology services, the delivery orders were actually used to obtain interrogator and other intelligence services. The Commander, Joint Task Force-7, was the requiring and funding activity; but, as stated in General Fay's investigation, "it is unclear who, if anyone, in Army contracting or legal channels approved the use of the BPA."[64] The Deputy General Counsel of the Army later determined the delivery orders should be cancelled as exceeding the scope of the GSA contract. In addition, a CACI employee, aided an Army official in drafting the statements of work for the delivery orders in possible violation of FAR 9.505-2.

The Army's investigation into Abu Ghraib found that intelligence activities and related services should be performed by military or government civilian personnel whenever feasible. It

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[62] Hersh, S. (2004, May 5). Torture at Abu Ghraib. *The New Yorker*.

[63] Jones, A. LTG. "AR 15-6 investigation of Abu Ghraib Prison and 205th Military Intelligence Brigade." Fay, G. MG. "AR 15-6 Investigation of Abu Ghraib Prison and 205th Military Intelligence Brigade." Schooner, S. (2005). "Contractor atrocities at Abu Ghraib: Compromised accountability in a streamlined, outsourced government." *Stanford Law and Policy Review,* 16(2).

[64] Fay (see note 64) Likely because of this incident, interagency contracts were recently placed on GAO's list of high risk contracting situations (Schooner, S. (2005, April 6). Risky business: Managing interagency acquisition. *The Government Contractor*, 47(14)).

also recognized that it might be necessary to contract for such services under urgent or emergency conditions. The report noted that if it proved necessary to contract for intelligence services, the most effective way to do that and maintain a direct chain of command would be to award, administer, and manage the contract with Army personnel.

The Army's investigation found that the Titan contract had been widely used (contract ceiling of approximately $650 million) to provide hundreds of linguists worldwide, generally with positive results. Since the contract provided only for translator services, and employees were not required by contract to conduct interrogations, the linguists at Abu Ghraib were apparently not required to read or sign the prison's rules of engagement for interrogations. Titan linguists did participate in interrogations.

The Titan and CACI employees that were suspected of committing offenses at Abu Ghraib were potentially subject to criminal prosecution under MEJA. The Army's investigation noted, however, that there were also contractor employees on site employed under non-DoD government contracts. These employees might not be subject to MEJA if not deemed to be "accompanying the Armed Forces."

The Army's report contained recommendations that the cases of certain Titan and CACI employees be forwarded to the General Counsel of the Army for possible referral to the Attorney General under MEJA. To date, there have been no prosecutions. Whether this is because allegations of abuse were not verified or because of other reasons is not clear. The lack of civilian criminal action is in contrast to several courts-martial and other disciplinary actions taken against soldiers.

In addition to other leadership and management lapses at Abu Ghraib, on-site contract monitoring by government employees was inadequate. The Officer-in-Charge of interrogations never received any guidance or parameters on how to use CACI personnel. She was not aware of any contracting officer's representative (COR) and considered her point of contact CACI's on-site manager. Military personnel were apparently unaware the Government could reject unsuitable contractor personnel. Apparently there was no attempt made to familiarize the users of CACI's services with the terms or procedures of the contract.

Several personnel who testified during the Army's investigation indicated that contractor personnel were "supervising" military personnel and *vice versa*. This type of relationship (contractor supervision of military personnel) even appeared on organization charts.

The confusion of organizational relationships was not confined to Iraq. According to media reports, an Army spokesman in Washington stated civilian contractors at Abu Ghraib and elsewhere "fall in line with the current command structure" and are treated just like regular Army personnel.[65] CACI made a similar statement: "All CACI employees work under the monitoring of the US military chain of command in Iraq."[66] These statements are at odds with Army policy (AR 715-9, "Contractors Accompanying the Force") that states: "contractor employees are not under the direct supervision of military personnel in the chain of command."

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[65] Worden, L. (2004, June 15). Army may be misusing contractors. *The-Signal.com* (quoting Lt. Col. Pamela Hart). Retrieved February 2005 from www. The-signal.com/News/ViewStory.asp?storyID=4845.

[66] See note 65.

The confusion of organizational relationships at Abu Ghraib went beyond contract management. The Army report notes confusion between military intelligence and military police functions and further notes that the Federal Bureau of Investigation (FBI), Central Intelligence Agency (CIA), and other investigative components were also on-site. The CIA was involved in interrogations and directing certain interrogation techniques.

Poor training did not merely extend to confusion about roles and responsibilities, but some CACI employees were not well trained for their duties as interrogators. As noted above, linguists who were not trained or required by contract to participate in interrogations did so. Little (if any) training was given on the Geneva Conventions.

The Fay investigation concluded "no credible exercise of appropriate oversight of contract performance" occurred at Abu Ghraib. This was due to lack of training and a failure to assign an adequate number of CORs with consequent lack of adequate contract monitoring and management. This put the Army at risk of being unaware of poor contract performance and possible contractor employee misconduct.

3. LOGCAP in Iraq

LOGCAP support for Iraq is provided under the third competitively-awarded umbrella contract (LOGCAP III).[67] In effect since early 2002, LOGCAP III was awarded to KBR and provides support in Kuwait, Afghanistan, Djibouti, Republic of Georgia, and Uzbekistan in addition to Iraq. The contract was competitively awarded by the Army Material Command (AMC) on a best-value basis. It is an ID/IQ contract. The contractor is not paid merely because of contract award but as the need for services arise and task orders are placed against the contract. Task orders placed under the contract may be priced as cost-plus-award-fee (CPAF), cost-plus-fixed-fee (CPFF), or firm-fixed-price (FFP). Generally, CPAF task orders are used in contingency operations when performance parameters such size of the order, location and field condition of the supported troops, are not known precisely or are subject to change.

Combatant commanders in Iraq, or other supported customers, such as the Coalition Provisional Authority or the Iraqi Survey Group (in 2003-2004), develop requirements for support based on their operational plans. These "customers" examine the various means for addressing support requirements such as active or reserve components, host nation support or LOGCAP.

If LOGCAP is the most viable alternative for support, a decision often driven by compressed timelines and operational exigencies, the customer writes a statement of work (SOW) with the assistance of LOGCAP planners. The SOW is forwarded via the Army Deputy Chief of Staff, Logistics, to AMC's Army Field Support Command (AFSC) LOGCAP contracting office.

After compliance reviews, the procuring contracting officer (PCO) sends the SOW to the contractor and requests a technical execution plan and rough order of magnitude cost estimate. After cost and technical approach are accepted by the PCO and customer, and upon receipt of

[67] Kern, P. GEN. (2004, March 11). Contracting in Iraq. [prepared statement]. US House of Representatives, Committee on Government Reform. (Gen. Kern's statement is the basis for the description of the LOGCAP contract in the first part of this section).

funding authority from the customer, the PCO issues a notice to proceed to the contractor. This process can be completed in 72 hours under urgent circumstances.

The resulting undefinitized contractual action subsequently is priced through the submission of a detailed contractor cost estimate, Defense Contract Audit Agency (DCAA) audit, and PCO/contractor negotiations. The first task order to support base operations was awarded in April 2002 for work in Uzbekistan. In the following two years, task orders grew in number to 76, with exactly half in support of Operation Iraqi Freedom.

In addition to logistic support for deployed forces, LOGCAP was utilized in the immediate post-major-conflict period to prepare for Iraqi reconstruction—specifically, the pre-positioning of personnel and equipment to restore Iraqi oil fields. Subsequent efforts in this arena were managed by the Army Corps of Engineers.

The PCO's contract management function is supported by the Defense Contract Management Agency (DCMA) in addition to DCAA. DCMA acts as administrative contracting officer (ACO) under authority delegated by the PCO and performs a variety of on-site oversight responsibilities, including review of contractor use of the government supply system. In addition to reviewing cost proposals, DCAA reviews the contractor's estimating and accounting systems, and also reviews incurred costs and vouchers prior to submission for payment.

General Paul J. Kern (former AMC commander) informed Congress in 2004 that in the "first phases of supporting our troops, the focus and priority has been on responsiveness, but all within the framework of the Federal Acquisition Regulation."[68] He went on to state that despite some delays in definitizing task-order pricing, and the challenging environment that "hindered the implementation of robust business management systems," progress had been made by both the government and KBR.

General Kern assured Congress that KBR had an incentive to control costs. The negotiated estimated cost was the baseline on which the award fee would be determined. The maximum fee was three percent, with a base fee of one percent—leaving two percent as the potential award fee. General Kern specifically identified this fee structure as equating to KBR's "projected profit." In addition, he stated KBR had an additional incentive to control costs because evaluations for award of future government contracts would include an assessment of the contractor's past cost control.

In July 2004, the GAO issued a report that reviewed DoD's extensive use of logistics support contracts.[69] LOGCAP funding in support of operations in Iraq had risen to $5.6 billion by May 2004, and the GAO report made a number of findings and some of its recommendations based on contract support in Iraq. DoD concurred the GAO's recommendations and, thus, implicitly endorsed its findings.

The GAO found that Central Command planning for the employment of LOGCAP in Iraq began late—not until May 2003. This is contrary to LOGCAP policy calling for early planning. In contrast, European Command began the planning process (to support a planned entry into Iraq via Turkey) in September 2002. GAO also noted ineffective planning when it became likely that

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[68] See note 67,

[69] General Accounting Office. (2004, July 21). DoD's extensive use of logistic support contracts requires strengthened oversight. GAO-04-854.

the stay in Iraq would be longer than initially anticipated. There was some indication of a lack of detailed planning for the use of LOGCAP both at the theater level and by the divisions employed in the early operations. Tasks orders in Iraq and Kuwait had to be frequently modified.

The GAO report listed a number of task orders under LOGCAP where definitization had been long delayed. Not among the oldest but the largest was Task Order 59 for Iraq. This was a $3.9 billion task order issued in June 2003 originally scheduled to be definitized by December 2003. Action to definitize this task order did not begin until May 2004.

A general comment in the GAO report not specifically related to Iraq, but possibly reflecting the contract administration problems arising from delays in fixing the estimated costs of task orders, related to the award fee process. The contract called for an award fee board to meet every six months to review performance and fix the award fee. From early 2002 until the close out of GAO's report in mid-2004, the board had not met.

GAO called oversight of logistics support contracts "generally good." Despite this assessment, GAO found the available personnel were insufficient for proper oversight.

General Kern's assessment was that LOGCAP in Iraq "met its intended goals" and proved "it has greater potential than originally expected."[70] He referred to an unprecedented level of contractors on the battlefield and quantified them "as more than a division's worth of contractors working side by side with our troops."

General Kern spoke of a need to continually improve LOGCAP. He indicated an attempt would be made to transition from cost-type task orders to performance-based, fixed-price orders when feasible and to provide incentives for the contractor to perform in as efficient and effective manner as possible. He saw the need to ensure "policies and systems are in place to take care of our total force, including our contractors."

General Kern's assessment of LOGCAP in Iraq can only be considered positive. GAO's July 2004 report might be considered relatively positive, but containing tempered criticism of LOGCAP in Iraq, compared to other logistic support umbrella arrangements and the management of LOGCAP in other theaters.

Other critics have not been as kind as the GAO and General Kern. Representative Henry Waxman of the Committee on Government Reform, US House of Representatives noted, many "questions have been raised about the Iraq contracting process" and "seemingly inflated prices charged by Halliburton […] and Halliburton's admission of kickbacks."[71] Halliburton is KBR's parent company and was once headed by Vice-President Richard Cheney (causing some to suspect that Waxman's criticism is politically motivated).

By the beginning of 2005, KBR's LOGCAP task orders in support of Iraq had risen to $8.3 billion; Representative Waxman pointed out that the growth of the value of Halliburton's (he invariably uses the parent company name) contract work had occurred despite "extensive

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[70] See note 67.

[71] Waxman, H. (2004, December 9). Iraq Contracting. Retrieved February 2005 from http://democrats.reform.house.gov/investigations.asp?issue=iraq+contracting; Waxman, H. (2004, December 9). Halliburton Iraq contracts pass $10 Billion mark. Retrieved February 2005 from YubaNet.com www.yubanet.com/cgi-bin/artman/exec/view.cgi/6/16071.

problems" with billings and "criminal investigations" of company officials. A decision by AFSC not to impose a fifteen percent withholding on KBR invoices was said to be the "Bush Administration's" continued rejection of "recommendations of its auditors that 15% of Halliburton's LOGCAP reimbursements be withheld."[72]

The validation of criticisms raised by Representative Waxman and others will have to await the conclusion of legal and administrative proceedings. Meanwhile, some high government officials have rejected publicized allegations of contract mismanagement and over-billing in Iraq's stressful environment. Deidre Lee, Director of Defense Procurement, has recounted her personal experiences in a visit to Iraq and explained how a much-publicized allegation of KBR over-billing for meals served in Baghdad was based on a failure to understand the realities of the situation (this view was seemingly substantiated when in April 2005 the Army reached a settlement highly favorably to KBR).[73] In a similar vein, Ambassador Paul Bremer (former CPA Administrator) rejected in the strongest terms the report of the Special Inspector General for Iraq Reconstruction.[74] The Inspector General criticized CPA management of contracts for Iraq reconstruction that included some KBR work that was also the subject of Representative Waxman's criticism. Bremer characterized as a "major flaw" the Inspector General's "failure to understand and acknowledge" the context in which the CPA operated.

Whatever the exact quality of KBR's work, a few points stand out. First is General Kern's assessment that LOGCAP met and even exceeded expectations in Iraq. Second, KBR's work on LOGCAP and its smaller companion "Restore Iraq Oil" contract was not merely expensive but constituted a massive undertaking.

A year after entering the theater, KBR had 24,000 employees and subcontracted personnel working in Iraq and Kuwait.[75] In one six-month period, KBR delivered and installed 34,000 living container units, 10,000 toilets and 10,000 showers to accommodate 80,000 soldiers. In less than a year it opened 64 dining facilities and served 40 million meals. It annually processed a million bundles of laundry, disposed of 1.5 million cubic meters of trash, transported and delivered 13 million pounds of mail, moved one million equipment and supply containers from Kuwait to Iraq and transported 1.8 billion liters of fuel. In order to accomplish its transportation function, KBR had to hire, mobilize and train 1,500 certified heavy truck drivers. These figures provide a far from complete picture of LOGCAP work in Iraq but are illustrative of the magnitude of the effort.

4. Industry Perspectives

Companies with membership in the Professional Services Council (PSC) are heavily involved in Iraq contracting (KBR is a PSC member) and, in conjunction with AMC officials, presented a joint briefing to General Paul Kern, AMC commander, on lessons learned from contracting in Iraq.[76] Another industry association, the International Peace Operations

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[72] Waxman "Halliburton…" (see note 71).

[73] Lee, D. GWU conference (see note 8). (2005, April 6). All things considered; Report on National Public Radio. (Army paid 95% of KBR's disputed costs originally assessed as 40% over-billed). Same report, Representative Waxman complained about the settlement.

[74] Special IG faults CPA oversight of $8.8 Billion. (2005, February 9). *The Government Contractor*, 47(6),.o

[75] Halliburton successes: Improving the lives of soldiers and Iraqis. (2004, March 18). Halliburton press release.

[76] Professional Services Council. (2004, September 30). Iraq contracting lessons learned. The author wishes to acknowledge the assistance of Stan Z. Soloway, President of the PSC, in providing the author a copy of the briefing

Association (IPOA), represents “private security companies” and with some of its member companies supported a conference on learning lessons from contractors on the battlefield in Iraq.[77] Unless otherwise noted, the “industry perspectives” presented here are based on presentations from those forums.

In general, PSC representatives thought core military support contracting was highly effective but was significantly challenged by the volume of contract actions and a constantly changing threat environment. The evolution from war to “nation building” changed the nature and structure of some contract relationships, but was not accounted for. Lack of doctrine for an environment in the aftermath of the Iraqi regime’s collapse wrought inconsistencies. The highly politicized nature of contract oversight had significant adverse impacts on the environment, mission execution and cost of contracting.

The application of FAR requirements involved significant limits and costs that were not always understood—particularly by the oversight community. Requirements for subcontracting with US small business, Iraqi businesses, and Coalition partner businesses created execution difficulties, audit problems and security challenges. Lack of authority to waive certain socio-economic clauses that made no sense under the circumstances caused problems. Small businesses that had the availability and capability to contract in Iraq were limited. The risks of contracting under conditions like those in Iraq are magnified for a small business. The prevalence of undefinitized contract actions and DCAA insistence on immediate audits caused significant problems.

PSC companies found that the requirements-definition process was too decentralized, and especially in the early phases, was unclear or even missing. Requirements definition was often disconnected from the contracting and contract-administration process. Performance requirements and execution times were often unrealistic and not synchronized with the government’s capability to support contractor deployments. The “customer” was not always closely connected to contract execution and established roles and responsibilities.

Difficulties were encountered in contract type (time and materials, fixed price, and cost type) determinations. The highly publicized and politicized nature of Iraq contracting brought pressure for FFP contracting, especially in construction, when the Iraq environment clearly required cost-type contracting. This also emphasized the cultural difference among the various government contracting organizations (e.g., Corps of Engineers requirements for FFP contracting) that resulted in inconsistencies and challenges for contractors. The incremental funding process and definitization of task orders created confusion and an “auditing nightmare.”

Deployed contracting officials often lacked authority that was retained by PCOs and ACOs in the United States. Contractors found that the terms and conditions of their contracts often dealt inconsistently or erroneously with worker- and workplace-security requirements. The change-order process was slow due to lack of local ACO authority and distances involved. Companies often received conflicting and contradictory directions from their local customer and the official COR/CO.

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materials, meeting with the author and Dr. Jacques S. Gansler to discuss the issues covered in the briefing and in answering follow-up questions.

[77] GWU conference (see note 8).

Where the government had a local program office, staffed with authorized senior managers, many of the inconsistencies and coordination problems were overcome. This was found to be the exception, however. In general, the government had inadequate program management and contracting capabilities in Iraq. Contractors perceived there were more local oversight personnel than contracting professionals. While acknowledging the need for appropriate auditing, contractors feel the current auditing process is in "overdrive."

Contractors believed that the oversight community was not well versed in mission realities. The oversight "overdrive" has real effects. To some contractors, government personnel seem not only to fear making a mistake but are fearful of making a decision! This causes real execution problems, causes delays and costs money.

There have been problems in the area of pay and benefits. The Iraq security environment and competition for available skills often results in a salary premium of 55% or more for Iraq work, but DCAA has capped such premiums at 50%. There seems to be a limited government understanding or acknowledgement of contractor compensation realities, particularly by the oversight community, that sometimes takes disallowance actions after the fact. There also seems to be an assumption of pay norms (40 hours/5 days) that are not applicable in Iraq.

Personnel security problems continue to persist. There seems to be confusion over who provides security and in what circumstances. Army security policies are at odds with some contract security requirements. Contractors perceive that a focus on "contractors accompanying the force" misses the point that all contractors in Iraq are "on the battlefield."

Given the nature of operations in Iraq, there are many other security issues. It is now routine to authorize contractors to be armed. This creates potential legal liabilities as well as status concerns. There are concerns about the extent to which the flow of private security forces into Iraq includes qualified personnel. By one estimate, 20% of every contract dollar goes for security—and this does not include indirect costs resulting from delays, shut downs and evacuations due to security concerns, or costs like being driven to work. There is a general and mutual lack of sharing of situational intelligence between contractors and government.

PSC companies have other concerns that deal less directly with their contract relationship with the government but that are considered important. These include the lack of a SOFA in Iraq and the uncertain future of contractor personnel status, should a future Iraqi government modify the SOFA-like protections provided by CPA Order 17. Another key issue is insurance. This is a legal requirement under the Defense Bases Act, but very expensive and sometimes unavailable as a practical matter. A variety of other issues (deployment-processing log jams, various personnel requirements, inconsistency between contract requirements and export control limitations, and others) are vexing to PSC companies.

In reviewing the PSC's list of concerns, one might be struck by repeated references to excessive oversight and auditing. These concerns might be dismissed by saying contractors always want less oversight and fewer audits. However, Prof. Steven Schooner, Co-director of George Washington University Law School's government contracts program, has commented on the business climate in Iraq, pointing out that the country has virtually no banking system. Banking is done in Kuwait. Contractors must bring boxes of cash under armed guard into the country in order to subcontract with local firms and individuals. The lack of banking is only one

of many infrastructure deficiencies in Iraq. According to Professor Schooner: "You can't audit to Federal regulatory standards in that environment."[78] Another expert in government contracts has noted that the requirement for firms to have government cost-accounting systems is a *de facto* limitation on competition at a time when Congress has expressed a concern over the lack of competition in Iraq contracts.[79] One can only surmise that the critics who complain about a lack of competition ("no-bid contracts") are referring to task orders under LOGCAP and other competitively-selected contracting vehicles.

Representatives of the private security firms that were members of IPOA had a rather different perspective on contracting in Iraq. Their contracts were typically with US government agencies (other than the DoD), with multi-national organizations or non-governmental organizations.

Rather than less regulation, representatives of the private security industry felt a need for responsible regulation and a better definition of their legal and operational parameters. Their concerns revolved around liability, accountability, and security. Their primary issues were not with the government or their customers, but related to the uncertain legal environment in which they operated, and the uncertain business risks they faced. They had no problem with transparency or opening their books to customers, and hoped contracting agencies would conduct due diligence to avoid contracting with unethical or unprofessional firms.

The representative of one company stated he knew who his contracting officer was, who controlled the resources and requirements applicable to his contract, and had no difficulty communicating with them. He had no problem with the terms and conditions of his contract, or the rules of engagement under which he operated. His concerns related to the potential applicability of local law if CPA Order 17 was rescinded, the uncertainty of MEJA, and the potential jurisdiction of the International Court of Justice.

The representative of a company that provided security for Ambassador Bremer and officials of the CPA said that daily things go on "outside the scope of the contract. Reality meets the terms of the contract and they don't match." His company would "provide a flexible solution." He emphasized the give and take needed to make the contract work effectively, stating it was not a used-car deal.

A Marine Colonel who served in Iraq and was familiar with the operations of the company that supplied security for Ambassador Bremer stated that the company "did its job of protection very well but contributed to the insurgency by pissing people off."[80] The Colonel related that many Iraqis, as well as he himself, had been driven off the road by the contractor's high-speed convoys ferrying Ambassador Bremer from place to place.

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[78] Schooner, S. Remarks at GWU conference (see note 8).

[79] Nichols (see note 54) conference presentation (*de facto* limitation) and *Conference Briefs*, 3-17 to 3-20 (concern about competition).

[80] Hammes, T. COL. Remarks at GWU conference (see note 8). The company involved (Blackwater Security Consulting) engaged in a major shoot out with Shiite militia at Najaf in April 2004. A handful of Blackwater employees (aided by a Marine and a couple soldiers) held off overwhelming numbers of Iraqis attempting to overrun the CPA headquarters at Najaf. During the course of hours of fighting, the Americans were re-supplied with ammunition by a Blackwater helicopter. Blackwater firepower and the skill of its ex-special forces employees were credited with saving the day.

In one respect, the private security contractors encountered experiences similar to the PSC companies. There is no central contracting body or gateway for contracting in Iraq. Instead, there are a variety of contracting authorities with different cultures and even different rules. The private security companies dealt with the CPA program management organization, US Army Corps of Engineers, and other contracting entities. One reason the private security companies may be less concerned about audits than the PSC companies is that they do relatively little contracting under the FAR. While the FAR and its supplements number thousands of pages, including extensive cost principles and unique accounting requirements, CPA Order No. 87 that governs CPA and Iraqi government contracts is just fifteen pages long.[81]

B. AFGHANISTAN

1. The Long Supply Line

Military operations in Afghanistan were of a very different character than in Iraq. There was no equivalent of heavy forces driving to Baghdad. Initial in-country operations, beginning in October 2001, involved Special Forces and the mobilization of indigenous allies. Supported by air power, ground forces drove the Taliban from power and caused Al Qaeda to abandon its camps and seek shelter in caves and remote regions.

Once US and allied forces established operating bases inside Afghanistan, the problem of sustaining those bases came to the fore. Land -ocked and mountainous, Afghanistan presents real transportation problems. Airlift could solve part of the problem but was not the final solution.

Some of the US forces operating against the Taliban were initially based in Uzbekistan. Indigenous fighters of the Northern Alliance received some of their supplies from across the Uzbekistan border. Once bases were established in the northern cities of Mazar-e-Sharif and Bagram, they were primarily supplied via Uzbekistan.

While one supply route led through Karachi and other Pakistani ports and then overland to southern Afghanistan, another route involved shipments by ocean carrier to Bremerhaven, Germany, then thousands of miles by rail across Europe and Asia to Karshi-Khanabad Air Base in Uzbekistan.[82]

Long as the northern supply line was, problems had hardly begun once the supplies reached Uzbekistan. The troops that needed support were hundreds of miles away. The sustainment of forces inside Afghanistan by ground transportation was undertaken by the 507th Logistics Task Force and 164th Transportation Contract Supervision Detachment.[83] The 164th orders vehicles, coordinates passes, documents cargo, escorts trucks and assists customers.

In December 2001, contract truck shipments to Mazar-e-Sharif began. The 164th contracted for local 20-ton Super Kamas trucks because of the size and capacity of these trucks. Despite poor road conditions, climbs as high as 6,000 feet and, snow drifts that

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[81] Nichols (see note 54).

[82] Cintron, D. (2002, September-October). MTMC surface shipments sustain troops in Afghanistan. *Army Logistician,* 34(5).

[83] See note 82.

sometimes blocked tunnels and roads there were 38 successful supply convoys to Mazar-e-Sharif in the first month of operation, with only three delays.

With the first truck convoys arriving at Mazar-e-Sharif, the 164th began planning for the more difficult route to Bagram. Through careful planning, it was determined that the heavier trucks were unsuitable for the Bagram run due to bridge capacities and other reasons. Ten-ton Kamas trucks were suitable for this route and readily available in the region. An initial trip with two of the contracted trucks proved successful after a 40-hour run. The first ten-truck convoy followed, and by mid-April 600 contracted trucks had delivered 4,200 tons of supplies to Bagram.[84]

The style of contracting undertaken by the 164th appears to be quite different from that under pre-planned umbrella support contracts. Local contractors in Uzbekistan and Afghanistan are far from "full service" operations. This leaves it to the contracting detachment to be active in the planning, coordinating, and facilitating of the trucking operation. This approach apparently brought good results on Afghanistan's northern frontier.

2. Death at Asadabad

In June 2004, an indictment was issued by a federal grand jury in the Eastern District of North Carolina. What was unusual was that according to the indictment the alleged crimes occurred in Afghanistan.[85]

David A. Passaro, a former Army special forces soldier, former police officer, and Army civilian employee took a leave of absence from his job to work under contract for the Central Intelligence Agency in Afghanistan from December 2002 to September 2003.[86] There he engaged in paramilitary operations.

According to the indictment, on June 19th and 20th, 2003, Passaro interrogated Abdul Wali, an Afghan who had surrendered himself at the front gate of a military base near Asadabad in Kunar Province. Wali was placed in a detention cell on the base. He was suspected of being involved in mortar attacks on the base. During interrogations, it was alleged that Passaro used his hands and feet and a large flashlight to beat Wali. On June 21st Wali died, apparently of a heart attack.[87]

The indictment charged Passaro with four counts of assault within the special territorial jurisdiction of the United States. If convicted on all counts he faces forty years in jail and a $1 million fine.

The Department of Justice asserted jurisdiction over Passaro's alleged crimes because the base on which they occurred was within the "special maritime and territorial jurisdiction of the United States" (18 U.S.C. 7 (9)(A)). MEJA was apparently not considered applicable to Passaro because, though he was serving on a US military base, he was under contract to the

[84] See note 82.

[85] US Department of Justice. (2004, June 17). CIA contractor indicted for assaulting detainee held at US base in Afghanistan. Press release.

[86] Dao, J. (2004, June 18). A man of violence or just "110 percent" gung-ho? *New York Times*.

[87] See note 86.

CIA rather than the DoD. Had the offenses not occurred on the base, Passaro would have escaped prosecution. On the other hand, had a US citizen like Passaro been arrested by local authorities for an off-base crime involving a local national there would be no basis for the United States to request he be handed over to US jurisdiction. He would, thus, be left to vagaries of local laws and potentially be subject to trial (or punishment without trial) possibly without a lawyer or even an interpreter. If convicted, he might be subject to punishments much more severe than those meted out in the American system.

This case illustrates that the deficiencies of MEJA are a two-edged sword. Not only will some contractor employees escape justice entirely because MEJA is inapplicable (or too cumbersome), but others may be subject to accusation and trial in systems foreign to a western sense of justice or fairness with the United States having no basis to assert jurisdiction itself.

For his part, Passaro asserts he was just doing his job and following President Bush's admonition to use "all means" to fight terrorism.[88] He alleges that his indictment is based on the Administration's embarrassment over the Abu Ghraib and its need to do something to counter the impressions left by that scandal.

As flawed as MEJA may be, it has actually been used once in the five years since enactment. The trial did not involve a contractor employee, but the dependent wife of an Air Force sergeant who was tried for stabbing her husband to death off base near Incirlik, Turkey.[89] Turkey declined to assert jurisdiction because none of its nationals were involved.

C. THE BALKANS

1. From LOGCAP to Balkans Support Contract

Serious ethnic violence began in the Balkans at about the same time that the original LOGCAP contract was awarded to KBR (actually Brown and Root Services Corporation a KBR subsidiary). US ground forces were committed to Bosnia in 1995 and KBR provided support under the LOGCAP contract. KBR lost the second phase LOGCAP contract in 1997 but continued to provide contract support in the Balkans under a bridge contract. In 1999, KBR was competitively awarded the Balkans Support Contract (BSC).[90] Through a succession of contract vehicles, KBR has essentially had a continuous support role in the Balkans since the mid-1990's.

KBR's work in Bosnia provided some of the earliest examples of contracted support for a relatively large force (20,000 troops of Operation Enduring Freedom) under an umbrella contingency contract, and had the potential to supply lessons for both contracting officials and policy makers. In a pattern that was to become familiar, KBR provided support primarily at military bases and camps. Support tasks included quality-of-life and subsistence support, engineering, and maintenance work.

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[88] *Associated Press.* (2005, February 20). CIA employee says he's a scapegoat..

[89] *Associated Press*. (2004, July 14). L.A. trial begins for woman who stabbed husband at Turkish base.

[90] Herndon, B. Contractors on the battlefield: A KBR perspective. Retrieved briefing charts from, www.logtech.unc.edu/Calendar?2003_observations_Seminar/Presentations/Herndon_KBR.pdf. The author acknowledges a previous case study (Gansler. Brown and Root in Bosnia, p. 44) on this subject (see note 18).

KBR hired a workforce of 6,700 workers, mainly foreign nationals paid at relatively low wages. These workers performed tasks that ordinarily would have required 8,500 troops. This was a 21-percent manpower savings.[91] The Army and KBR also claimed that using contract support in lieu of uniformed personnel resulted in a cost savings of 30 percent.[92] While freeing uniformed personnel from support functions to perform combat and humanitarian duties was significant, it was all the more important when the US was operating under a self-imposed troop cap of 20,000 personnel in-country.

In what was to become a recurring theme of General Accounting Office reports on contracted combat support, a GAO review of contingency support contracting in the Balkans recommended the Army provide more oversight of contractor operations.[93] GAO found that contractors received about 10 percent of the $13.8 billion spent in the Balkans between 1995 and 2000. In 2000, according to the GAO, the Army was just beginning to attempt to keep contractor costs down. It was exercising minimal control over the costs of recurring services. GAO reported that KBR had brought too many local-hires onto the pay roll and many could be found idle.

Part of the lack of cost control was attributed to the nature of the BSC. Because the contract was a cost-reimbursement, performance-based contract, Army officials gave the contractor considerable latitude in performing task requirements. Government contracting personnel, most of whom were civilians, rotated every six months, preventing them both from acquiring the required expertise on the contract and developing effective relationships with contractor personnel. This prevented them from ensuring effective operations, according to the GAO. Government and contractor personnel seemed to be unsure how much authority the government was supposed to have over contract performance. Neither seemed properly trained to implement the contract.

The inexperience of government contracting personnel in the Balkans (as described by GAO) was not necessarily a view shared by officers of the Defense Contract Management Command (DCMC); these thought DCMC personnel were doing a professional and critical job of contract administration there.[94] GAO's criticism of Army cost control efforts may have been correct from a narrowly focused point of view, but failed to consider personnel and cost savings flowing from the basic decision to obtain support via contract. Moreover, even relatively inefficient employment of local workers may have positive effects for the United States in a humanitarian operation or insurgency.

Before closing this brief review of contracting in the Balkans it might be worth noting that the US Army Corps of Engineers, Transatlantic Program Center, Winchester, Virginia—rather than AMC—is the PCO on the contract. Like many other combat support contracts, funding (US Army, Europe), PCO responsibility (Corps of Engineers), ACO responsibility (DCMC now DCMA), and the customer (deployed units) all involve different organizations. As a final note,

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[91] Stafford, D. & Jondrow, J. (1996, December). A survey of privatization and out-sourcing initiatives. Center for Naval Analyses.

[92] Brewster, B. (199, May 5). The business of war: US military applies free market trends in Balkans. ABC News. Retrieved from, www://abcnews.go.com/Sections?business/DailyNews/warbiz990505.html.

[93] General Accounting Office. (2000, September). Contingency operations: Army should do more to keep costs down in the Balkans. GAO/NSAID-00-225.

[94] McElroy, T. (1999, September-October). Critical logistics link. DCMC at work in the Balkans. *Dimensions* (Defense Logistics Agency magazine).

the BSC is also an example of where the Army conducted analysis under its "Risk Management" (Field Manual 100-14, 1998, April 23) policy prior to award of contract actions.[95] This action undoubtedly brought the Army into compliance with DoD Directive 3020.37 requirements for a contractor essential services planning process. See Appendix II for a graphic representation of the risk-mitigation process.

2. Contingency Contracting In Kosovo

In June 1999, Serbian depredations against the non-Serbian population of the former Yugoslavian province of Kosovo resulted in a mass exodus of civilians from Kosovo to Albania. A NATO air campaign had failed to deter the Serbians. Pursuant to international agreement, a coalition of countries sent military forces into Kosovo and Albania to drive the Serb military from Kosovo and restore order. Days earlier, a contingency contracting team deployed to Albania from Germany.

The "team" (initially consisting of Major Daniel Rosso of the US Army Contracting Command, Europe (USACCE), and Major Bill MacQuail, 106th Finance Battalion) arrived at the international airport outside Tirana, Albania, armed with their 9mm pistols and toting rucksacks carrying the essential items, including rations and $700,000 in cash and $2.3 million in negotiable instruments.[96] Not only were they days ahead of the tactical deployment of troops of Task Force Hawk, but upon arrival they could detect no semblance of national or municipal government.

After a night under the stars, the team first acquired a rental car. Then they drove to Tirana to locate contractors, construction equipment and gravel pits, cell phones compatible with the antiquated local telephone system, and conducted a "market survey" of what was available in the city. In their travels they came across a large construction operation engaged in roadwork and noted the company name. This information was provided to USACCE who connected KBR to the firm. They were soon engaged in constructing revetments and other defensive works necessary in the event of Serbian air attacks on Task Force Hawk's base site.

The team let contracts with gravel pits to haul gravel to the Task Force Hawk location to be used to construct a rough road network to take combat equipment flown in by C-5s. Spotting a truck transporting portable toilets to a refugee camp, they tracked down the source. A short phone call to Italy and telephonic negotiations resulted in the acquisition of the first 22 of an eventual 264 portable toilets for Task Force Hawk. Along with the toilets, trucks and crews from Italy were contracted to service them.

These and subsequent transactions were done in cash, because Albania had no local banking infrastructure. The team would drive into town going from shop to shop to find required items. Rosso would fill out a standard form 44, list every item purchased and have the contractor sign the form. The ability to read English was apparently not a requirement. The back seat of a vehicle, away from prying eyes, was often the location of the exchange of thousands of dollars of cash between MacQuail and a local merchant. Back at Task Force Hawk's base, Rosso would obtain the signature of a unit representative on his SF 44 and deliver the supplies.

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[95] Greenfield, V. GWU conference (see note 8).

[96] Logistics in Kosovo: the story of Major Daniel Rosso, US Army Contracting Command, Europe. (1999, September 24). Case study used in "Public Policy and Private Enterprise in National Security." PUAF 698-B, University of Maryland (Dr. Jacques S. Gansler, Professor).

With the tactical deployment of the task force, the workload and the team grew. Arriving with the troops were three "emergency essential" Army civilian contracting officers. KBR arrived on scene as well and provided the team with access to its reliable communication and fax capabilities when needed.

KBR and its sub-contractors used the gravel initially procured by the team to build the needed road network. KBR also took over responsibility for procuring additional portable toilets as originally contracted for by the team. The relationship between KBR and the contingency contracting team was mutually supportive, including the exchange of data on sources of supply and pricing information.

With KBR on the scene, Rosso's attention was directed more to staff work in support of the integrated logistics effort (engineering, DCMC, ACO, and KBR) headed by the task force's logistics officer (J-4). Still, there were other contracting successes. When a local contractor lost his gravel truck in an accident, Rosso convinced him to start a new business filling sandbags. These were necessary for force protection. Paid 7 cents per bag that was filled to standard, the contractor and his crew averaged 30,000 bags per day, all filled to standard.

The "wild and wooly" nature of contingency contacting was brought home one day when Rosso and MacQuaid were meeting with a contractor at a café. He told them to display their weapons visibly and leave in their vehicle, as a "bad man" was coming. Because Rosso dealt directly with contractors, a local thug had been losing his normal middleman cut and felt left out of the money. The trust between Rosso and his contractor helped him avoid a potentially nasty or even deadly confrontation.

The Standard Form 44, "Purchase Order-Invoice-Voucher" is authorized for use by FAR 13.306. It is normally used for immediate purchases at or below the micro-purchase limit (generally $ 2,500 at that time), but a higher limit ($ 25,000) was authorized for off-shore contingency operations. SF-44 contains no FAR contract clauses and the contractor is not subject to oversight or audit. This all seems remarkably different than the way most FAR-based contracting is done. Indeed it is. It is much more characteristic of commercial reality, whether in the war-torn Balkans or on the main street of an American city.

D. OTHER EXAMPLES

1. East Timor—Helo Support

A crisis in East Timor in 1999 proved to be the first occasion Pacific Command had to make use of the LOGCAP contract.[97] This was not primarily a US mission. Australia took the lead in an international effort, but the US committed itself to supply support it was uniquely capable of supplying, and eventually transition that support to international agencies such as the United Nations.

When the crisis arose, Australia's heavy-lift helicopters (CH-47 Chinooks) were inoperative due to systemic transmission problems. The US filled the gap with amphibious assault ships and their CH-53 Sea Stallion helicopters. First on station was the U.S.S. Peleliu with helos of the 31st Marine Expeditionary Unit, later relieved by Belleau Wood and the 11th

[97] (1) Mattox, P. & Guinn, W. Contingency contracting in East Timor. (2) Folk, J. & Smith, A. A LOGCAP success in East Timor. (3) Keller, S. Aviation Support to East Timor. All in (2000, July-August. *Army Logistician,* 32(4).

MEU. The assault ships served as floating bases. This was effective, but made the ships unavailable for other uses and dedicated a few thousand Marines and sailors to support the use of a small number of helicopters. This situation was undesirable in the long term.

Weighing the options, the US Pacific Fleet decided funding commercial helicopter support through LOGCAP was preferable to rotating a third ship to support the mission. PACOM's director for logistics, engineering and security assistance, BG Philip Mattox, found the LOGCAP contractor, DynCorp, and the Army's LOGCAP manager, to be flexible and helpful. Planning to replace the dedicated military assets proceeded rapidly.

DynCorp was tasked to complete a market survey for available options within 24 hours. The time was late October, and the desire to have American military personnel home for the forthcoming holidays (Thanksgiving to New Year) was among the factors considered in pushing an aggressive schedule. Concurrent with a search for suitable helicopters was an effort to decide upon and prepare a base of operations. Dili, the largest city in East Timor, was selected.

During the process of completing the "rough order of magnitude" proposal, DynCorp tentatively identified two types of Russian helicopters as most suitable for the mission. Medium lift Mi-8s were available from Bulgaria, but huge Mi-26s could only be obtained from Russia. DynCorp representatives went to those countries to check on the status of the aircraft as well as to hand-pick flight crews. The crews were Bulgarian and Russian citizens; and while English is the language of international aviation, that did not extend to these crews. Language proved a problem, and the contract eventually contained a requirement for at least one member of each crew to speak English. By November, DynCorp's recommended approach was approved and DynCorp was tasked to be on station and operational within two weeks.

A Russian Government policy recommending against the use of Russian helicopters and crews to support operations in East Timor interrupted plans for the Mi-26s when Russian authorities refused to approve the transfer flight plan early in November. This resulted in a flurry of letter writing activity by DynCorp, AMC, and other US government agencies to Russian and Indonesian Embassies. The Russians relented. However, the Russian crews were required to have visas in order to legally leave the country. East Timor had no visa entrance requirement. DynCorp coordinated the solution with PACOM and the head of the international force in East Timor. Each Russian crewmember was issued invitational travel orders. The Russians recognized this as meeting their visa requirements.

DynCorp activities at Dili were conducted in conjunction with its partner Flour-Daniels Federal Services and involved the deployment of earth-moving equipment on ocean-going barges and transports. Construction of maintenance shelters and hard stands away from normal operating areas was undertaken to avoid the over-crowded conditions at the airport and to create an all-weather capability for the approaching monsoon season. Local labor was hired to perform site preparation functions.

Delays were encountered in transporting the Mi-8s from Bulgaria. President Clinton was visiting Bulgaria, and Sofia airport and environs were shut down. When the airport finally opened, a giant AN-24 transport loaded two Mi-8s, a fuel truck, generators, spares, and flight crews and took off for East Timor. Airfield restrictions forced a temporary stop at Jakarta, Indonesia, but eventually the Mi-8s unloaded at Bacau, East Timor, and then were assembled and flown to their operating base, Comoro airfield outside of Dili. The heavy-lift Mi-26s were flown directly from Russia in a series of stages covering ten days.

PACOM and international force planners played their part in dealing with airspace clearance issues, life support, and fuel supply problems, as well as working out force protection and "status of forces" type issues. US military presence was minimal, and solving life-support and fuel problems for 100 in-coming personnel (flight crews and construction personnel) proved challenging. Immigration and customs issues had to be worked out—not only in East Timor but also in Australia, as Darwin was the staging area for the Australian contingent of the international force and the major rear area for operations. Planning and executing contingency contracting were new for the Pacific theater. PACOM, with the help of DynCorp's experience, was able to identify and work key issues. AMC provided a reserve unit to support and oversee contractor performance.[98]

Crew orientation was extremely important since East Timor is desolate and mountainous and has few navigational aids. Crewmembers attended numerous briefings and were oriented to the operational area.

By November 28th, the Mi-8s were ready for operations. They were joined a week later by the Mi-26s. No cargo load was too heavy for the Mi-26s and no village too distant for the Mi-8s to reach. During the three-month mission, crews flew 474 hours without incident. They moved approximately 845 tons of cargo and 6,500 passengers. One commentator on this operation simply titled his article "A LOGCAP Success in East Timor."[99]

2. System Support: The F-117A

During 1999, initially twelve, and later 24 F-117A Nighthawk stealth fighter-bombers were deployed to Italy. From there they supported NATO operations over the Balkans. Nighthawks flew numerous combat missions, and one was lost during combat operations.

In 1998, the Air Force entered into a contract with Lockheed Martin called Total System Performance Responsibility (TSPR).[100] This required the contractor to provide system support for the operation of the F-117 fleet. The contract required the contractor to respond to maintenance requests within 24 hours. The TSPR contract contained performance standards and projections for cost-savings, as well as fee incentives for improvements in fleet reliability.[101]

The shift in responsibility led to a reduction in personnel in the government F-117A system program office from 242 to 55 people. This reduction was, in large measure, responsible for a savings of $30 million within two years.[102] Personnel savings were estimated to grow to $90 million over the life of the contract. These savings, along with other efficiencies, were estimated to eventually total $170 million.

The contract also provided for performance improvements to the F-117A fleet. The contractor exceeded all TSPR performance measures. The Air Force-wide goal for non-mission-

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[98] US Army Reserve. New Army reserve unit provides logistic support in east Timor. Retrieved from, www.uasrc.army.mil/news/eastimor.html.

[99] Folk (see note 95).

[100] Oliva, J. (2001). The black jet turns 20. *Code One* (magazine of Lockheed Martin Aeronautics Company), 16(1). The author acknowledges a prior case study on this subject by Gansler, 45 (see note 18).

[101] Peters, K. (2000, September 1). Roadblock. *Government Executive*.

[102] See note 101.

capable aircraft was set at seven percent or less. The F-117A's rate during the first year under the contract was five percent. This decreased to less than three percent in the second year. This is significantly better than most Air Force systems. This record was achieved during a period when there were occasions when up to half the F-117 fleet was deployed overseas.

VI. DISCUSSION—CONTRACTING CHALLENGES

The issues revealed by this research differed widely in their characteristics. A number of topics that transcend the focus of this paper, though suggested by the research, were deemed too broad to be discussed in the current context. The author is, however, left with an abiding impression that contracting under the FAR is much too heavily regulated and sacrifices fundamental principles and efficiency for excessive oversight, and, burdensome and unnecessary procedures. Rather than adopting commercial practices and then making special provisions for government unique requirements, procurement regulations establish many government unique processes and then make limited exceptions for purchasing commercial items (e.g., FAR Parts 12 and 13). The stress of combat-support contracting highlights a number of anomalies and contradictions inherent in government contracting which are, however, not necessarily unique to the topic of this paper and are best deferred to another forum.

The author draws two overarching lessons from the research results documented in this paper. They are: (1) the need for training, and (2) the need to increase and empower the contracting staff of the theater and joint task force commander. Other lessons and issues are important, but attempts to improve combat support contracting and understand the proper role for civilian contractors in proximity to combat operations are likely to make only limited progress unless these issues are addressed.

A. TRAINING

This research found a number of deficiencies in training. It seems fair to conclude that, despite the length of time that contingency and combat support contracting has been going on, its growth has not been equaled by a growing awareness among military personnel of the issues and complexities involved in combat support service contracts.

While the prisoner abuse at Abu Ghraib may have been unique, the evident lack of understanding about proper relationships and roles for contractors may not be equally unique. Many soldiers at Abu Ghraib thought contractors were supposed to be fully integrated into the chain of command and even assume supervisory roles over military personnel. This view was shared by the OIC of investigations at the prison and even articulated by a field grade Army spokesman who made comments about the situation from the Pentagon.

Support service contracts are hard to manage. Maintaining a team concept between contractor employees and government personnel who work side-by-side in an office or on the battlefield is important. Maintaining formal distinctions between the two is also required (primarily because personal services contracts are generally not authorized).

In large military organizations, training probably needs to be multi-faceted. Officers and NCOs might receive general training on appropriate relationships with contractors as part of their initial training or professional military education. In assignments where military personnel are likely to routinely work with or interface with contractors, orientation specific to the circumstances could be undertaken for all personnel.

Customers receiving support under a contract need to have some familiarity with the terms and conditions of the contract. If contractor employees engage in inappropriate conduct or are ineffective, military personnel affected by or aware of their actions need to know who to go to or what can be done to correct the situation. Obviously, a certain degree of sensitivity and sophistication is required. There is no need to make a "federal case" out of a situation where a few words of admonition might correct a deficiency. For some, the difference between suggesting an improvement and giving an order will be difficult to understand. In some instances even such informal interaction may not be appropriate. Training geared to the maturity and sophistication of the trainees is required. Thus, both generalized training and specific orientation may be needed.

Industry views on combat support contracting in Iraq suggest other training is needed. Oversight personnel need to understand contingency contracting is not business as usual. Oversight that causes government decision makers to fear making a decision is bad oversight. Personnel providing oversight for contingency contracting operations need to be trained to do their jobs without injecting added stress into already stressful situations.

In the Balkans, the GAO found a lack of familiarity with the contract, and frequent job rotations limited the effectiveness of government contracting personnel. In cases where the circumstances prevent the incremental acquisition of the required experience level, intensive training and local orientation might be used to partially remedy the deficiency.

Contractors are generally responsible for training their own employees. There are instances when the government has certain responsibilities for training contractor employees, however. Industry representatives reported a number of deficiencies encountered at CONUS Replacement Centers (CRCs) by employees deploying for Iraq. First, the requirement to process through the CRC did not always fit with the deployment schedule required by the contract, due to the timeline imposed or the inadequacy of the CRC to meet the throughput requirement. Many contractor employees reported CRCs "jammed five days of training into two." Some contractor employees were not processed through CRCs. CRC training did not always stay current with the evolving threat environment or theater commander directives.

Some of the training deficiencies described above are relatively easy to understand and may also be relatively easy to solve. There also seem to be more ethereal questions. The PACOM logistics staff responded well to its first exposure to contingency contracting in East Timor. What if the crisis had been more widespread or US involvement more central? If a major contingency had been PACOM's first experience with contingency contracting, would they have been able to replicate the success? This question suggests contingency contracting exercises might be a useful part of planning and training in combatant commands and other organizations involved in the contingency contracting process. In a similar vein, how many contracting officers would have been capable of duplicating Major Rosso's initiative in Albania or coordinating local trucking in Afghanistan? Developing expertise in our highly regulated procurement system does not necessarily contribute to the ability to acquire needed goods and services in remote or under-developed regions of the world. If this observation is correct, ways to develop this expertise and initiative need to be developed.

I have referred to the last items as ethereal. Neither that nor their position at the end of the discussion is meant to indicate a lack of importance. Imposing training requirements on subordinate elements may be relatively easy. Convincing a busy joint commander to train and engage in staff exercises for contracting contingencies he may never have to face may be difficult. Training officers to act like Major Rosso did may also be difficult and may be even more

objectionable when combined with the thought that an officer performing the functions Major Rosso did doesn't really need much training in the intricacies of the FAR. What is needed is initiative, the ability to assess needs and good business sense. Personnel selection may go hand-in-hand with training.

B. JOINT COMMAND CONTRACTING CAPABILITY

Of the three types of contingency support contractors described in Section III, only the theater support contractor operates in an environment where lines of contract authority, resource allocation and the chain of command intersect. Even then, the chain of command and the lines of contract authority are not identical. For the other types of contractors (external support and weapons systems contractors) contract authority, resource allocation, and the customer often constitute three distinct chains of command.

In Iraq, this situation was made more complicated by the presence of other government agencies and their contractors, as well as contractors of the CPA. It has been said, nobody actually knows how many contractors and contractor employees are in the country. We can hope such situations will not recur frequently. The combatant commander is responsible for the success of his mission and yet may have only nominal or no control over large numbers of contractors that have the potential to affect the outcome of his mission.

A number of the case studies presented above have involved instances where the PCO was resident in the United States, but the customer was deployed in a distant and sometimes remote location. Clearly, this arrangement can and has been made to work. Some of the case studies suggest that such arrangements can delay and reduce the effectiveness of contract actions. Intuitively it seems to be a sub-optimum arrangement. PSC companies in Iraq found authority and responsibility for sequencing and prioritizing tasks to be distributed and unclear.

In Iraq, units of the Iraqi Army training under the supervision of officers of the US Army and Marines had progressed to the point of combat training with AK-47s. US officers prepared to receive the assault rifles only to find that the civilian (CPA) authorities in charge of the contract under which they were to be delivered had cancelled the contract after a bid protest had been filed.[103] The military was not consulted, and no attempt was made to defend the contract action or take alternative action such as a partial cancellation (the contract called for a large variety of mostly military supplies, not all of which were as critical as the AK-47s). One can well imagine that each day the training of Iraqi Army units is delayed will eventually result in an additional day when American soldiers will be at risk. The Joint Commander had no say in the situation.

The Army's "Contractors on the Battlefield" (Field Manual 3-100-21, January 2003, previously FM 100-21 of the same title) emphasizes planning as the key to obtaining effective support from contractors during operations. The Army's earlier guidance recognizes that in "most operations, multiple contracting agents will be present in the theater"—dealing with theater support, external support, and system contractors. The commander is directed to establish the "CINC Logistics Procurement Support Board" to "integrate and monitor contracting activities throughout the theater."

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[103] Hammes, T. GWU conference (see note 8). *Cemex Global Inc.,* (2004, February). GAO file No. B-293676 (no decision filed). *Conference Briefs* (see note 54), 3-21.

The earlier version of the Army's Field Manual expressly pins responsibility on the theater commander for overall "management and maintaining visibility over the total contractor presence in the theater (battlefield). […] This is in line with the concept that contracting support is centralized at the highest level to ensure a coordinated approach for operation support."

The revised version of the field manual, while containing a more extensive and updated discussion of issues related to contractors on the battlefield, backs off from the explicit language on command responsibility in the earlier version. "The combatant commander sets the tone for the use of contractor support […]" through the planning process. He is to assure "harmony of effort." Under the revised field manual, the commander's principal assistant responsible for contracting is responsible only for theater support contractors.

There may be instances when such an approach may prove viable, but apparently Iraq is not one of them. In addition to "wild cards" such as the CPA (recalling the action described earlier in this section and actions of its security contractor Blackwater), the Abu Ghraib scandal points out that even some Army-funded contracts were not being effectively monitored and controlled in Iraq.

The kind of command responsibility described in the earlier version of the Army's guidance appears to be desirable. One suspects that the guidance was revised in recognition that the theater commander could not be held responsible when his "control" over many contractors was nominal or non-existent.

The foregoing is not meant as a criticism of the Army guidance. The evolution of the Army's guidance suggests it is the result of a thoughtful assessment. Rather, it points out the deficiency of joint doctrine in this area. "Contractors in the Theater," Chapter 5 of Joint Publication 4-0 "Doctrine for Logistic Support of Joint Operations," has not been revised since 2000 and does not adequately address many of the issues raised by recent operations. The Army's guidance is to a considerable degree a reflection of reality, and may be viewed as an indictment that nobody is really in charge of all the various contractors and contracting agencies that appear on a modern battlefield.

The battlefield commander's command and control of contractors must be strengthened through the alignment of contract authority with command authority. This includes providing adequate staff resources to address contracting issues. It requires passing as many lines of contract authority as feasible through the joint command. In some cases this may involve transferring PCO authority from an outside agency to the joint command. In other instances it may be sufficient to vest the command with COR or ACO responsibility or, as proposed in a pending DFARS revision, vesting the theater commander with contract change authority normally vested in the contracting officer. In a lesser number of instances, especially with non-DoD funded contracts or weapons system contracts, establishing mechanisms for effective visibility and coordination may be enough. Contracting authority should be centralized at the level needed to ensure coordinated operational support—at the level of the joint commander.

In instances where contracting authority cannot be effectively vested in the theater commander, coordination of the various parties involved in combat support contracting must be improved. This probably requires the creation of a high-level office to coordinate policy and to expeditiously resolve disputes or inadequacies in performance among the various stakeholders.

For short-term deployments, with few contractors involved, current policies have generally proved adequate. Major operations with a multiplicity of contractors have demonstrated the need for improvements.

C. CRIMINAL JURISDICTION

The discussion of MEJA in Section IV and the Passaro case in Section V demonstrates the inadequacy of current criminal jurisdiction provisions applicable to contractors overseas. As discussed in those sections, US criminal jurisdiction may be viewed as both a sword and a shield.

MEJA's record of one criminal prosecution in five years is likely an indication to foreign countries that the United States in unwilling or unable to take action under the statute. Contractor employees in Bosnia that recruited local women, including underage girls, for a sex ring were not prosecuted.

Where there is no SOFA, or where the SOFA gives the host government the option to waive or assert jurisdiction, the record under MEJA will no doubt be taken into consideration. If MEJA is to be viable as either a sword or a shield, something needs to be done to make its use more practicable in cases other than those involving murder or egregious war crimes. In some countries, local judiciaries may well inflict death or other extremely serious punishments for crimes usually dealt with much less seriously in the United States. Based on the author's experience as a NATO trial observer in Turkey, had Mrs. Arnt (the wife who stabbed the Air Force Sergeant near Incirlik) been tried in Turkish Courts, she would have been convicted (after serving an unpleasant pre-trial confinement) and executed.

Constitutional jurisprudence imposed on the executive and legislative branches by the Supreme Court (each of whom has a responsibility to protect and defend the Constitution no less solemn than the Court's) has obviated the simplest answer to the problem. If civilians accompanying the military overseas cannot be subjected to the same laws and procedures as the military, Congress needs to come up with something better than MEJA. Proceedings before a special master that are videotaped and reviewed by a district court jury (or other expediencies that will make trial logistically feasible without sacrificing fundamental rights) might be one approach. This would still preclude many "routine" cases since US district courts typically only try cases involving relatively serious crimes. Completely innovative approaches might be considered. Federal law might assimilate various aspects of state law and procedure and make it applicable to citizens of the state accompanying the force. With state concurrence, accused persons could be transferred to state jurisdiction for trial. This would allow for the prosecution of mid- and low-level crimes as well as murder, the only crime tried under MEJA to date.

D. COMBATANT STATUS

Status as a combatant or non-combatant is legally significant in international law. At a practical level, the distinction may have limited significance. Personnel entering a combat theater as part of a military force are likely to be viewed as combatants by hostile forces regardless of their actual status.

Trucks in a military supply convoy will be considered legitimate targets whether their drivers are military members or contractor employees. One commentator suggested the ground based "pilot" of an unmanned aerial vehicle would legally be considered a combatant regardless of whether military or civilian. This would make him a legitimate target. The command center

from which the aerial vehicle is operated is undoubtedly a legitimate target. Any civilian working there (no matter how benign the function) would share the risk of attack with military operators. Moreover, as PSC companies pointed out, in Iraq the entire country is the battlefield.

Under certain circumstances (international conflicts where all parties respect international law) the distinctions made by international law (e.g., individual targeting, prisoner-of-war status) may confer benefits on contractors who strictly maintain a non-combatant status. If warfare in the 21st Century resembles the discussion in Section II, and may often involve an insurgency or operations in undeveloped nations, the tenets of international law are likely to provide little protection to contractors.

In international conflicts, the US has international standards to maintain. Current practices raise serious questions about combatant status. Contractors who support weapons systems or are employees of private security companies seem to be most at risk of losing protected status or becoming illegal combatants, merely by performing routine functions required by their contracts.

Consideration of non-combatant status under international law should be considered in any developments in policy or doctrine with regard to contractors on the battlefield. At the same time, lessons from recent operations should not be ignored. Protections provided by non-combatant status have become illusory in certain operations.

E. FORCE PROTECTION

Entirely apart from humanitarian considerations, the more important the functions that contractors perform in military operations become, the more important it is to protect them. Incidents like that in Fallujah, Iraq, in April 2004, when four contractor employees were murdered and their bodies mutilated, shows that force protection for contractors—as well as sharing situational awareness between government and contractor personnel—is imperfect.

Force protection requirements for support elements are not limited to contractors. This was illustrated by the well-known case in which Private Jessica Lynch was captured along with other members of her maintenance company. Uniformed truckers in Army transportation companies found the authorized number of ring-mounted weapons for their trucks was inadequate. Adjustments to unit authorizations had to be made.

There has been a trend in Iraq to authorize and direct contractors to provide more capable weapons for their self-defense (sometimes resulting in export control difficulties).

Contractors have made use of private security firms to strengthen protection for their workers. These measures are expensive in dollars, but tend to avoid the traditional concern with contractor-force protection, namely, that it will divert military forces from their primary mission. However, it raises the question of combatant status, which is an important issue in international conflicts where the Geneva Convention is applicable or in other situations where a foreign nation may have criminal jurisdiction over the acts of US contractors.

In the stressful environment of Iraq, approximately 200 contractor employees have been added to the 1,400 military personnel killed there (as of March 2005). Relatively effective measures to protect contractors are being extemporized. As noted above, many of these are self-help measures performed by contractors themselves.

Policy and doctrine concerning contractor force protection is inconsistent and uncertain. Current operations have shown that large numbers of contractors can operate in-theater without necessarily diverting the military from high priority missions. It also appears that significant improvements in mutual visibility between contractors and the military and in sharing situational awareness could be made. Finally, the obvious must be stated. If a theater commander does not know who and where contractors are in his theater, he can hardly provide for their protection.

F. CONTRACTOR RELIABILITY

A lack of contractor reliability in the face of an extremely challenging security environment has not been demonstrated in Iraq. Whether on the level of individual employees or companies, this "primary concern" has not yet proved to be a significant problem based on recent experiences.

The last word on this topic has yet to be spoken, however. Several factors may make doing business in Iraq unattractive. While reputable companies may not abandon their contracts, it remains to be seen how many will compete for renewal of their contracts or for additional work. If a significant portion of the industry doing business in Iraq finds the business climate unattractive and withdraws, it is unclear how many other firms will find contracting opportunities attractive or within their capabilities.

There are several factors that could sour business opportunities for support contractors in Iraq. The politicization of Iraq contracting and the drumbeat of calumny directed at some companies could outweigh potential profits. In other cases, work in Iraq may simply become unattractive for basic business risk reasons. The drive toward fixed price contracting (partially driven by political criticism) could result in withdrawals similar to the Contrack case. If contractors cannot find insurance at reasonable rates, and the government refuses either to provide indemnification for the contractor or reimburse the full cost of insurance, business risk may become untenable. In at least one case the government has refused both indemnification and full reimbursement of insurance costs.[104]

Combat support contractors have proved to be reliable partners in recent contingencies. Political opportunism, overly zealous contract oversight, and misguided contract management policies could change that.

G. OTHER ISSUES

There has been considerable comment, much of it critical, by oversight organizations, such as the GAO, and by politicians, of the cost of combat support contracting in Iraq, the Balkans, and elsewhere. The criticism usually highlights particular "overcharges" or lapses in effective contract management. In fairness, it should be noted that GAO's most recent review of LOGCAP states improvements in managing costs have occurred and that additional improvements are possible.[105]

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[104] *Abt Associates, Inc*., Armed Services Board of Contract Appeals (ASBCA No. 54871). (Appeal noted 2004, December 14). Discussed in *Conference Briefs* (see note 54), 3-23.

[105] GAO. (2005, March). High-level DoD coordination is needed to further improve the management of the Army's LOGCAP contract. GAO-05-328.

The criticisms of contracted combat support seldom discuss the big picture issues associated with acquiring such support by alternative means. The primary alternatives available are active duty or reserve military forces. In some cases, as where force caps have been imposed, these alternatives may be essentially impracticable. Even when potentially available, these alternatives may be very expensive and unattractive.

As pointed out in background sections of this paper, deployments of military forces have been sustained at a very high level since the 1990's. Absent an increase in the permanent military force structure, emphasizing support "tail" over combat "tooth," there appears to be little capacity for alternatives to contracted combat support from that quarter. Any increase in the active force will bring with it "lifecycle" costs of new personnel ranging from their training and infrastructure support, to current compensation and future unfunded liabilities against the military retirement account.

Repeated deployments of Guard and Reserve forces have been criticized as a "backdoor draft." It has been predicted that recruitment and retention will suffer from repeated reserve component call-ups. Lifecycle cost issues, while not identical to those for the active force, will also increase. Added reserve force man-days must be compensated both in current dollars and in future retirement liability. Finally, there are costs seldom discussed in this context. These include family and career disruptions and even increased state welfare costs for those families where the pay differential caused by a reserve call-up of a breadwinner pushes the family into poverty. And the impact to small businesses and local governments due to the temporary loss of trained employees is thought to be significant in some cases.

Many of the studies cited in the notes of this paper address the question of the costs and risks of deploying large numbers of contractors in proximity to combat. The discussion above suggests insufficient attention may have been paid to the risks and costs of going back to a "total force" with a much smaller component of contracted support.

Beyond the simple expedient of reserve forces call-up or augmenting the active force is the British innovation of the "sponsored reserve," requiring contractors to employ reserve members of the armed forces in certain positions that are potentially subject to deployment. Contractor personnel, when deployed, do so in a military (rather than civilian) status. This approach does not actually augment the force, but it addresses both the international law status issue as well as criminal jurisdiction. The US reserve forces already include a large number of "mobilization augmentees" (reservists assigned to support an active unit), so the basic concept of a force of reservists not assigned to a specific reserve unit is not foreign to the US military. This concept holds promise, but it hardly seems to address large-scale and complicated situations such as we have encountered in Iraq. The concept might be expanded to temporarily confer military status on contractor employees being deployed to areas of active conflict.

VII. RECOMMENDATIONS

A. RECOMMENDATIONS REQUIRING LEGISLATION

This research revealed certain inherent contradictions in the current highly regulated procurement system. However, a recommendation for a complete review and reform of the procurement system based on the principal of facilitating rather than regulating contracting actions is beyond the scope of this paper.

1. Streamline Contingency Contracting

Pending comprehensive reform of the entire procurement system, measures to improve the effectiveness of contingency contracting need to be undertaken. Socio-economic policies that are difficult or impossible to implement overseas should not be required in the overseas operations of contingency contractors. Relieve contingency contractors from bid protests before the General Accountability Office, retaining the agency protest and subsequent court appeals. Provide a mechanism for agencies to proceed with mission-essential requirements even in the light of acknowledged administrative errors. Continue to raise the dollar limits and expand the various forms of simplified contracting methods when used to enter into contingency contracts overseas. Study the challenges of contingency contracting, and develop a legislative agenda for reforms based on, but not necessarily limited to, the recent lessons learned from such contracting.

2. Authorize Sponsored Reserves

Study the British experience with "sponsored reserves" and enact personnel and acquisition legislation to authorize a pilot program of an expanded version of contractor/sponsored reserve personnel in support of contingency operations.

B. OTHER RECOMMENDATIONS

1. Train for contingency and other support service contracting:

   A. Develop and train a cadre of personnel (whether with or without a contracting officer or supply corps military specialty) to act as contingency contracting officers. Once they are trained, authorize them to act as contracting officers utilizing standard form 44 and other forms of commercial or simplified methods of contracting.

   B. Include training on proper government-contractor relationships in routine training of government military and civilian personnel.

   C. Provide orientation and training specific to situations where government and contractor personnel will routinely or frequently interface. Emphasize that the development of a team concept does not erase certain distinctions between government and contractor personnel.

   D. Train and sensitize oversight personnel to adapt to the exigencies of contingency contracting and to recognize environments where "business as usual" is not an appropriate standard.

   E. Provide adequate training to deploying contractor personnel. Augment training capabilities at CRCs during surge deployments or accomplish needed training by other means.

2. Strengthen the contracting authority and staff of the joint commander:

   A. Recognize the need to centralize theater-contracting authority in significant deployments. Move toward a "joint contracting" strategy where service components hand off key contracting authority and contract actions to the theater

or joint task force commander. Establish a central office responsible for the coordination of those contracting matters that cannot be vested in the theater commander.

B. Staff the headquarters of joint commands, on a temporary or permanent basis, with sufficient expertise to monitor and manage contracts in their area of responsibility.

C. Grant the theater commander the authority to make contract modifications to combat support contracts in his theater.

3. Expedite updating “contractor on the battlefield” policy:

A. Issue revised policy guidance related to contingency contractors and contracting even if current efforts are recognized as less than perfect.

B. Continue to update and revise policy, doctrine and guidance incrementally as lessons are learned.

4. Review policies related to indemnification and insurance:

A. Conduct a review of the need to make indemnification (P.L. 85-804 or other available authority) more readily available to contingency contractors. Study the need for government action to make insurance more available and affordable for contingency contractors. Expeditiously take any action required as result of the studies.

5. Strengthen contract management in contingency contracting:

A. Deploy sufficient numbers of PCOs, CORs and ACOs vested with adequate authority to expeditiously effect contract actions in contingency operations. If limited tour lengths hinder the acquisition of requisite expertise, conduct intensive training and orientation to remedy this deficiency. Make sure that “doers” are given priority over “checkers” for deployment. Select personnel who see no conflict between “getting it done” and “getting it done right.”

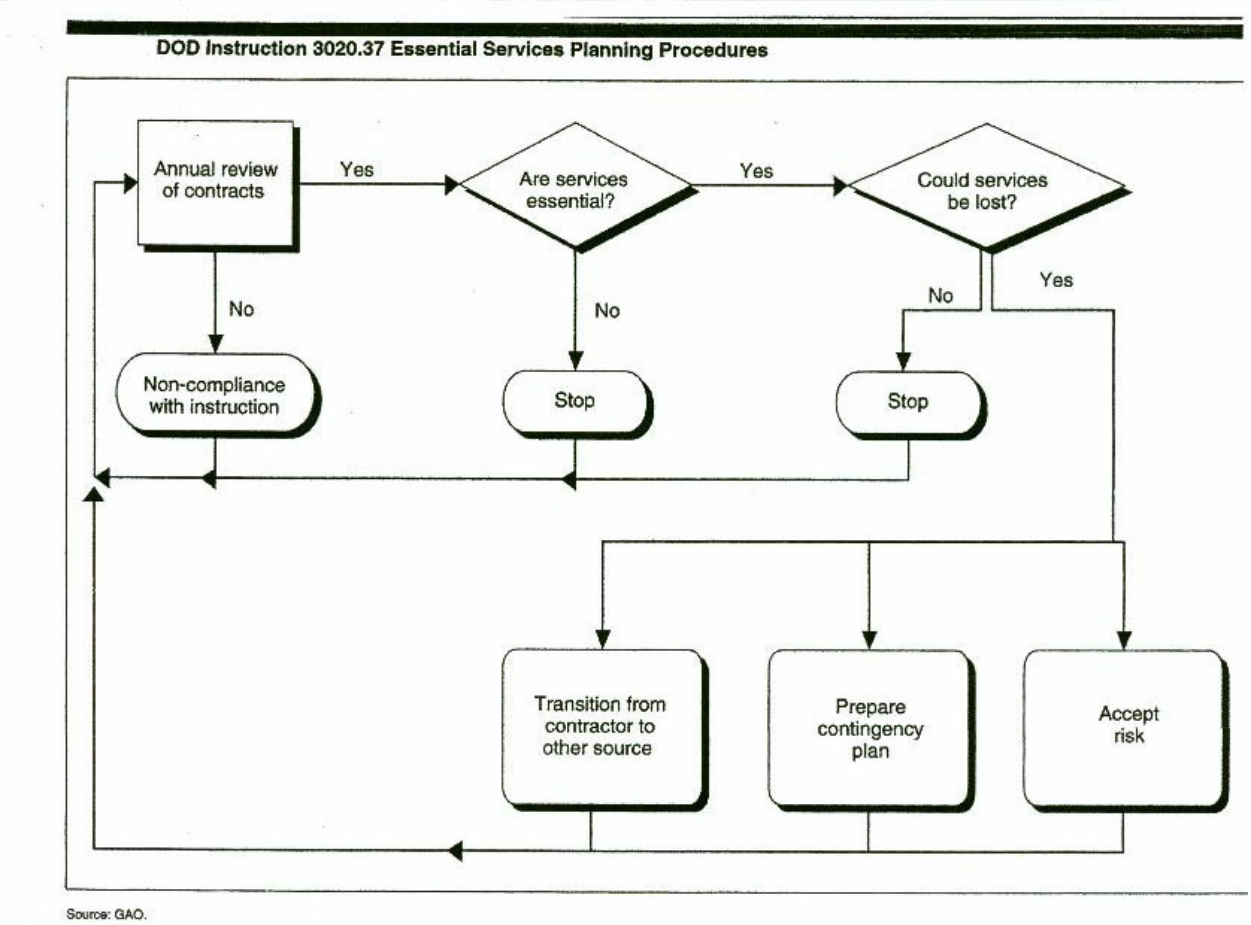
Appendix I. Contract Support Being Provided for Deployed Operations as of 2003

Selected Services Provided by Contractors in Deployed Locations

Service	Balkans	Southwest Asia	Central Asia
Weapons systems support	X	X	X
Intelligence analysis	X	X	X
Linguists	X	X	X
Base operations support	X	X	X
Logistics support	X	X	
Prepositioned equipment maintenance		X	
Non-tactical communications	X	X	
Generator maintenance	X	X	X
Biological/chemical detection systems		X	X
Management and control of government property	X	X	X
Command, control, communications, computers, and intelligence	X	X	X
Continuing education	X		
Fuel and material transport	X	X	X
Security guards	X	X	
Tactical and non-tactical vehicle maintenance	X	X	
Medical service		X	
Mail service	X		

Source: GAO.

Appendix II. DoD Contingency Planning Process for Contract Services



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Plenary Panel—Real Options in Acquisitions

Thursday, May 19, 2005 3:00 p.m. – 4:30 p.m.	**Plenary Panel—Real Options in Acquisitions**
	Chair: Thomas Housel, Naval Postgraduate School **Papers:** *"Using KVA and Real Options for IT Acquisition: Case Example"* LCDR Cesar Rios, US Army, Naval Postgraduate School Thomas Housel, Naval Postgraduate School Johnathan C. Mun, Real Options Valuation, Inc. David Mirano, Naval Postgraduate School Sarah Nelson, Intellectual Capital Ventures, LLC *"Managerial Real Options Practice in Large System Acquisition: Empirical Descriptions and Comparison with Theory"* David N. Ford, Texas A&M University Yanzhen Wu, Texas A&M University

Chair: Thomas Housel—specializes in valuing intellectual capital, telecommunications, information technology, value-based business process reengineering, and knowledge value measurement. He is currently a tenured Full Professor for the Information Sciences (Systems) Department at NPS. His areas of teaching include: information technology for homeland defense, decision support systems, knowledge management, electronic business, telecommunications, and reengineering. His current research focuses on the use of "Real Options" models in identifying, valuing, maintaining, and exercising options in military decision making. Prior to joining NPS, he also was a Research Fellow for the Center for Telecommunications Management and Associate Professor at the Marshall School of Business at the University of Southern California. Tom has been the Chief Business Process Engineer for Pacific Bell, where he completed numerous reengineering projects and developed a new objective method for measuring the value-added by reengineering. His last assignment in the corporate world was as the Chief of Consumer Market Research for Telecom Italia in Venice, Italy where he developed new methods for predicting the adoption rates for new interactive multimedia broadband applications. He is Managing Partner for Business Process Auditors, a firm that specializes in training Big Six consultants, large manufacturing and service companies in the Knowledge Value-Added methodology for objectively measuring the return generated by corporate knowledge assets/intellectual capital.

He received his PhD from the University of Utah in 1980. He won the prestigious Society for Information Management award for best paper in the field in 1986. His work on measuring the value of intellectual capital has been featured in a *Fortune* cover story (October 3, 1994) and *Investor's Business Daily*, numerous books, professional periodicals, and academic journals (most recently in the *Journal of Intellectual Capital*, vol 2, 2005). His latest books include: *Measuring and Managing Knowledge* and *Global Telecommunications Revolution: The Business Perspective* with McGraw-Hill (both in 2001).

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Using KVA and Real Options for IT Acquisition: Case Example

Presenter: LCDR Cesar Rios, USN

Presenter: Thomas Housel, specializes in valuing intellectual capital, telecommunications, information technology, value-based business process reengineering, and knowledge value measurement. He is currently a tenured Full Professor for the Information Sciences (Systems) Department at NPS. His areas of teaching include: information technology for homeland defense, decision support systems, knowledge management, electronic business, telecommunications, and reengineering. His current research focuses on the use of "Real Options" models in identifying, valuing, maintaining, and exercising options in military decision making. Prior to joining NPS, he also was a Research Fellow for the Center for Telecommunications Management and Associate Professor at the Marshall School of Business at the University of Southern California. Tom has been the Chief Business Process Engineer for Pacific Bell, where he completed numerous reengineering projects and developed a new objective method for measuring the value-added by reengineering. His last assignment in the corporate world was as the Chief of Consumer Market Research for Telecom Italia in Venice, Italy where he developed new methods for predicting the adoption rates for new interactive multimedia broadband applications. He is Managing Partner for Business Process Auditors, a firm that specializes in training Big Six consultants, large manufacturing and service companies in the Knowledge Value-Added methodology for objectively measuring the return generated by corporate knowledge assets/intellectual capital.

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Presenter: Dr. Johnathan C. Mun, is the CEO of Real Options Valuation LLC, a consulting, training, and software development firm specializing in real options, employee stock options, financial valuation, and risk analysis located in Northern California. He is the creator of the *Real Option Super Lattice Solver* software, Monte Carlo *Risk Simulator* software, and *Employee Stock Options Valuation* software at the firm. The *Employee Stock Options Valuation* software was used by the Financial Accounting Standards Board (FASB) to develop their example valuation (A87) in the 2004 FAS 123 requirements. He has authored numerous books including *Real Options Analysis: Tools and Techniques* (Wiley 2002, with a second edition forthcoming September 2005), *Real Options Analysis Course* (Wiley 2003), *Applied Risk Analysis* (Wiley 2003), and *Valuing Employee Stock Options* (Wiley 2004). His books and software are being used around the world at top universities.

He is also currently a finance and economics professor and has taught courses in financial management, investments, real options, economics, and statistics at the undergraduate and the graduate MBA levels. He has taught at universities all over the world and has chaired many graduate research thesis committees. He was formerly the Vice President of Analytics at Decisioneering, Inc. where he headed up the development of real options and financial analytics software products, analytical consulting, training, and technical support, and where he was the creator of the Real Options Analysis Toolkit software, the predecessor of the Super Lattice Software discussed above. Prior to joining Decisioneering, he was a Consulting Manager and Financial Economist in the Valuation Services and Global Financial Services practice of KPMG Consulting and a Manager with the Economic Consulting Services practice at KPMG LLP. He has extensive experience in econometric modeling, financial analysis, real options, economic analysis, and statistics. During his tenure at Real Options Valuation, LLC, Decisioneering, and at KPMG Consulting, he had consulted on many real options, risk analysis, financial forecasting, project management, and financial valuation for many multinational firms. His experience prior to joining KPMG included being Department Head of financial planning and analysis at

Viking Inc. of FedEx, performing financial forecasting, economic analysis, and market research. Prior to that, he had also performed some financial planning and freelance financial consulting work.

Dr. Mun received his PhD in Finance and Economics from Lehigh University, where his research and academic interests were in the areas of Investment Finance, Econometric Modeling, Financial Options, Corporate Finance, and Microeconomic Theory. He also has a MBA in business administration, a MS in management science, and a BS in Biology and Physics. He is Certified in Financial Risk Management (FRM), Certified in Financial Consulting (CFC), and is Certified in Risk Analysis (CRA). Finally, he has written many academic articles published in the *Journal of the Advances in Quantitative Accounting and Finance,* the *Global Finance Journal,* the *International Financial Review,* the *Journal of Financial Analysis,* the *Journal of Applied Financial Economics,* the *Journal of International Financial Markets, Institutions and Money,* the *Financial Engineering News,* and the *Journal of the Society of Petroleum Engineers.*

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Presenter: David Mirano, currently lectures on Defense Acquisition at the Graduate School of Business and Public Policy, Naval Postgraduate School (NPS), Monterey, California. He holds a Bachelor's Degree in Economics from Harvard (1985), and a Master's Degree in Systems Management from NPS (2000).

CDR Mirano's previous Navy experience includes a tour as Military Deputy for Contracts at NAVAIR Weapons Division, China Lake, California, as well as four operational tours, i.e., Services Officer onboard USS CARL VINSON (CVN 70), Supply Officer of USS SPRINGFIELD (SSN 761), Material Control Officer for FAIRECONRON TWO (VQ-2) and Stock Control, Sales and Disbursing Officers onboard USS CONSTELLATION (CV 64). CDR Mirano holds three warfare qualifications as Naval Aviation Supply Officer (NASO), Submarine Warfare Supply Officer (SUBSUPPO), and Surface Warfare Supply Corps Officer (SWSCO). CDR Mirano is a member of the Department of Defense Acquisition Professional Community (APC), and holds certification as a National Contract Management Association Certified Professional Contract Manager (CPCM).

Presenter: Sarah Nelson

ABSTRACT: This presentation reviews the use of Knowledge Valuation Analysis (KVA) and Real Options Analysis (ROAn) methodologies in information technology (IT) portfolio acquisition decision-making. The presentation provides an overview of the theory supporting each methodology as well as the operationalization of KVA and ROAn for use as practical tools in IT portfolio acquisition. We use a proof-of-concept case example to demonstrate how KVA provides comparable historical data for ROAn and also permits the monetization of ROAn discounted cash-flow inputs. The two software suites that support KVA (i.e., GaussSoft) and ROAn (SuperLatice) are reviewed in terms of their role in making the methodologies practical and scalable; their ability to maintain performance data on options over time will also be addressed. We conclude with the implications for this approach by addressing some common option valuation and risk challenges in the DoD acquisition environment.

KEYWORDS: real options, knowledge, valuation, risk, valuation, monetization

Managerial Real Options Practice in Large System Acquisition: Empirical Descriptions and Comparison with Theory

Presenter: David N. Ford, PhD, PE is an Assistant Professor in the Construction Engineering and Management Program in the Department of Civil Engineering, Texas A&M University. He researches development project strategy, processes, and resource management. Dr. Ford earned his PhD from MIT and Master's and Bachelor's degrees from Tulane University. He has over 14 years of engineering and project management experience.

Presenter: Yanzhen Wu is a Master candidate in the Construction Engineering and Management Program in the Department of Civil Engineering at Texas A&M University. She researches managerial perceptions of real option. Yanzhen earned her Bachelor's degree form Zhejiang University of Technology in Zhejiang, China.

ABSTRACT

Effective and efficient development of large complex acquisition projects requires proactive management of uncertainties to meet performance, schedule, and cost targets. Flexibility in the form of real options can be an effective tool for managing uncertainty and, thereby, adding value to acquisition projects. But, real options can be both difficult to recognize, design and evaluate and expensive to obtain, maintain, and implement. Real options theory suggests a general approach and has developed precise valuation models that demonstrate the potential of options to add value. But, these models of simplified real options (compared to managerial practice) have failed to significantly improve practice, presumably because of a lack of knowledge and understanding of real options use by practicing managers. In contrast, practicing managers identify, design, value, and implement real options as a regular part of acquisition. Understanding the similarities and differences between current practice and theory is critical for developing operational real-option theories that can improve management practice. In the current work, an experiment using a simple uncertain acquisition project and a simulation model is used to capture managers' perceptions of real options. Subjects both valued flexibility and conceptually understood the impact of uncertainty on option values. Future needs for expanding real options theory into the operational management of acquisition and management implications are discussed.

INTRODUCTION

The uncertainty inherent in large acquisition projects makes increasing their value by improving development and acquisition performance difficult. Unpredictable development environments, immature technologies, and complex interfaces in integrated weapons systems, research laboratories, energy infrastructure, and other large complex systems often generate performance that varies widely from project targets. Uncertainties can be primary causes of cost overruns, delays, and substandard product performance. Effectively managing uncertainty can increase project value by reducing the likelihood of not meeting targets as part of risk management, adding benefits beyond original targets (Ford et al., 2002; Ng & Bjornsson, 2004; Reinschmidt, 2004), or both. Whether uncertainty management is viewed as a form of risk management or performance enhancement can depend primarily on the targets. For example, postponing equipment purchases can add value to the purchaser if future prices are uncertain

and happen to fall. A lump-sum contractor will likely perceive managing this uncertainty as risk management if the bid is close enough to costs that the value addition is required to have costs not exceed the bid. But, the same lump-sum contractor may perceive managing the same uncertainty as a means of boosting profits if the bid far exceeds costs. Researchers and some practitioners recognize the potential of managing uncertainty to improve performance beyond targets as well as for risk management (Amram & Howe, 2002; Yeo & Qiu, 2002). The same basic management theories, tools, and methods can be applied to increase development project value through the management of uncertainty regardless of the levels of performance targets. Therefore, increasing project value can be a useful metric for either uncertainty management purpose.

Both the amount and nature of project uncertainty make it difficult to plan for and to manage. Miller and Lessard's (2000, p. 90) study of sixty large ($985 million average cost and 10.7 years average duration) engineering projects concluded that project success depended largely on the amount of uncertainty and how these uncertainties were managed. Ceylan and Ford (2002) investigated the complex nature of uncertainty in a single, large ($2.4 billion) Department of Energy acquisition project; they concluded, in part, that the complexity of managing uncertainty in practice currently exceeds the ability of available tools and methods. Proactively planning for and managing of uncertainty requires forecasting both performance under uncertainty and the impacts of potential decisions. Frequently, a lack of data or understanding of historical experience for prediction, long project durations, and complex interactions between project components (including decisions) make this difficult (Ceylan & Ford, 2002). Managers of large complex system-acquisition projects need decision-making theories, methods, and tools to use uncertainty to increase project value. Miller and Lessard (2000), Ceylan and Ford (2002), and others have found managerial flexibility to be a primary tool for managing uncertainty.

BACKGROUND AND PROBLEM DESCRIPTION

Focusing on project value as a metric for managing uncertainty requires a project valuation method to compare alternative acquisition strategies. Traditional project valuation tools such as Net Present Value ignore or undervalue the potential for flexibility to be used to increase project value (Dixit & Pindyck, 1994; Amram & Howe, 2002; Ng & Bjornsson, 2004; Yeo & Qiu, 2002). Methods that explicitly address flexibility in managing uncertainty include decision tree analysis and real options. Decision tree analysis can be valuable in structuring uncertainty management, but is limited in the number of uncertainty evolution scenarios and strategies that can be valued, largely due to its use of discrete time steps (Lander & Pinches, 1998; Schmidt, 2003). Real-options theory can explicitly capture the value of flexibility and is the focus of the current work. An option is the right, but not the obligation, to change a strategy in the future depending on how uncertain conditions evolve (Amram & How, 2002; Ford et al., 2002; Ng & Bjornsson, 2004). For example, by building an expandable waste-to-energy plant, an owner purchases an opportunity to increase the plant's capacity in the future if waste generation increases, but avoids expansion costs if waste production remains stable or decreases. The extra cost required to make the plant expandable is the cost of flexibility and an indication of a minimal value of the option, as perceived by the owner.

Real options theory formalizes this form of flexibility in the central premise that, if future conditions are uncertain and changing, the strategy later incurs substantial costs; therefore, having flexible strategies and delaying decisions can have value when compared to making all strategic decisions during pre-project planning. Real-options theory values alternative strategies by identifying available future alternative actions and when choices among them should be

made to maximize value based on the evolution of conditions. Options typically include decisions to delay, abandon, expand, contract, or switch project components or methods. Trigeorgis (2000) and others categorize and describe these classifications. Methods for valuing options have been developed and analyzed (Dixit & Pindyck, 1994), applied to engineering (Park & Herath, 2000; Baldwin & Clark, 2000), and promoted as a strategic planning aid by both academics (Amram & Kulatilaka, 1999; Bierman & Smidt, 1992) and practitioners (Leslie & Michaels, 1997). Real options have been used to increase value in natural resources development, research and development, and product development (Brennan & Trigeorgis, 2000; Amram & Kulatilaka, 1999; Trigeorgis, 1993; Dixit & Pindyck, 1994). This work focuses on the understanding of real-options theory by practitioners.

Real options capture the value of managerial flexibility to address uncertainty in decision making (Amram & Kulatilaka, 1999) and can add value to acquisition projects (Yeo & Qiu, 2002). However, in contrast to the expectations of some real-options researchers (e.g. Copeland & Antikarov, 2001), the theory is not widely used by practitioners. In 2002, a survey of 205 *Fortune* 1,000 CFOs (Chief Finance Officer) revealed that only 11.4% use real options, while 96% use Net Present Value (Teach, 2003). Lack of knowledge about real options by practicing managers has been suggested as a reason for the low adoption of real-options theory to practice (Schmidt, 2003; Lander & Pinches, 1998; Teach, 2003). Fundamental knowledge would include recognizing the most important features of options that impact value and the direction of impacts of changes in those features on option values. If this explanation is correct, that practitioners lack a fundamental understanding of real options concepts and relationships, basic education about real options concepts and fundamental relationships is a required next step in improving the management of flexibility with real options. But, if practicing managers have this fundamental knowledge, then improving practice with real options requires a different focus, perhaps on the development of application tools and methods. Describing and evaluating managerial understanding of fundamental real-options value concepts is important for increasing the use of real options to manage uncertainty.

Some evidence suggests that managers do not understand real options well. Miller & Lessard (2000) conclude that managers *intuitively* manage uncertainty to gain the upside value. Based on a case study of options use in practice, Ceylan and Ford (2002) concluded that “Many acquisition project managers recognize the value of flexibility in managing dynamics uncertainties and use options. However, the practice is rarely structured into the frameworks developed by options theoreticians.” The tacit methods used by the majority of managers to identify, design, value, and implement options may hide or be used to obfuscate a lack of understanding of real-options theory fundamentals. Based on the plethora of publications demonstrating the potential benefits of applying simple real options in practice (including one by one of the authors), many real-options researchers evidently agree. But, other evidence suggests that practitioners do understand real-option theory fundamentals. Based on his interactions with managers dealing with uncertainty, Triantis (2001) claims that managers often consider how uncertainty will evolve and their potential strategies, both which are central to real-options theory. Ford (2001) observed managers’ use of options in the development of the National Ignition Facility, including the explicit identification and description of uncertainties, quantitative performance forecasting, option valuation, and strategy selection based on option valuation.

In summary, acquisition project managers use real options widely, but rarely knowingly apply real-option theory that has been demonstrated to have the potential to increase project value. Understanding similarities and differences between managerial perceptions of real options and real-options theory is critical for developing operational real-options theories that

can improve management practice. The current work investigates the consistency between perceptions of real options and real-options theory. Few descriptions of real-options practice (that reveal managerial understanding) exist as a basis for such an assessment. This research developed an uncertain acquisition project exercise and simulation model as the basis for an experiment to reveal how subjects perceive options and to compare those perceptions with real-options theory.

HYPOTHESES

The most fundamental concepts and relationships of real-options theory are captured in the Black-Scholes equation (1973), which values flexibility in a financial asset (e.g. common stock). They value an option based on five factors: 1) variance of returns on stock, 2) stock price, 3) Time to expiration of the option, 4) exercise price, and 5) the risk-free rate of return. Corresponding components of a large acquisition project could be: 1) uncertainty in performance, 2) asset value, 3) duration that flexibility is available (option life), 4) costs to change strategies, and 5) discount rates (Ford & Sobek, 2005). Increasing uncertainty, asset value, option life, or the discount rate increases option values, while higher costs to change strategies decreases option values (Brealey & Myers, 2000). This research investigates perceptions of real options by testing the consistency of human understanding of fundamental drivers of option value with options theory. Due to its importance to option value and the potential for them being influenced by managers (Alessandri, Ford, Lander, Leggio, & Taylor, 2004; Bhargav & Ford, 2005), the current work focuses on the relationship between uncertainty and option value.

H: Perceived option values are positively correlated with perceived uncertainty.

This hypothesis reflects real-options theory. The adjective “perceived” is used to clarify that the concepts being measured are those understood by humans and to distinguish them from actual or optimal values. Support for the hypothesis would suggest an understanding of this fundamental real-options concept.

RESEARCH METHODOLOGY AND DESIGN

To test the hypothesis, the Rig Installation Project, a simulated simple uncertain acquisition project was developed. Research subjects were required to manage this uncertain project without and then with managerial flexibility being available. Subjects repeatedly valued an option to avoid a slow and expensive system-integration failure. To collect multiple types of data, subjects were interviewed (after managing the project) about how they made decisions during the project without and with flexibility, about how they valued flexibility, and other questions related to their perception of flexibility. Performance and interview data were analyzed to describe how subjects perceived and valued flexibility in an uncertain project. A system-dynamics simulation model (Sterman, 2000) of the experimental project was also developed to help test the hypothesis. Decision-making policies described by subjects during interviews and used during the experiment to manage uncertainty and extreme policies were built into the model. This allowed the management of many projects under a wide range of conditions and policies to be simulated. The hypothesis was tested using data collected from the experiment, subjects’ answers to the interview questions, and simulation results.

The Rig Installation Project Experiment

The Rig Installation Project without flexibility (the Rigid Project) is the basis for management with flexibility and will be described first. The Rig Installation Project represents the installation of a semi-submersed, deep water exploration and production rig for oil and gas in the Gulf of Mexico. A rig is composed of multiple systems—such as the sea floor anchors, support cables, flotation can, topsides, drill rig, etc. The project simplifies the complexity of rig installation and system integration into sixteen interacting systems arranged as shown on the right side of Figure 1. Systems are represented by playing cards numbered 1-16. Each system moves from fabrication (left side of Figure 1) to a dock and through one of three paths to the project site.

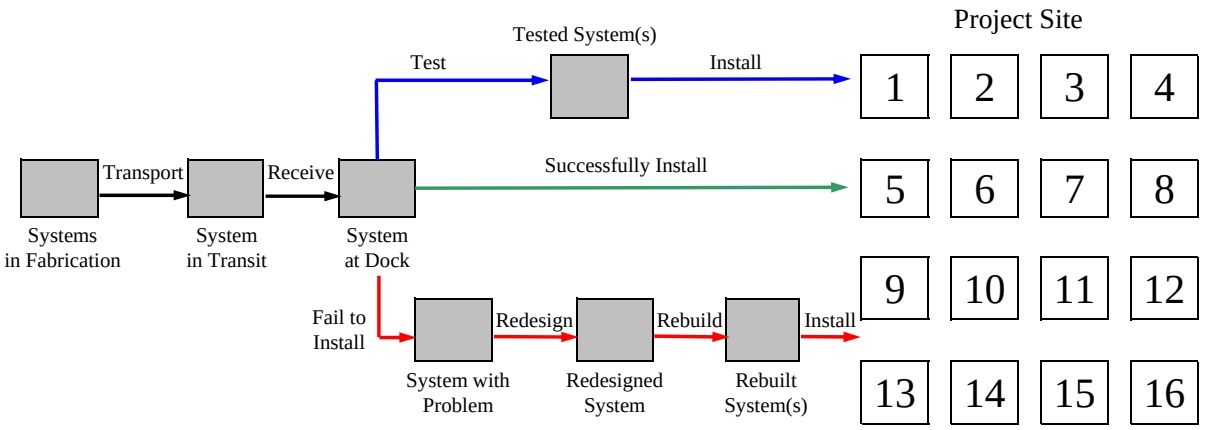

Figure 1. Rig Installation Project

Systems are built in different yards by different contractors and leave fabrication at a rate of one system per week. Systems arrive at the dock two weeks after leaving fabrication. Uncertainty is introduced through the random order of systems leaving fabrication. Before each system leaves fabrication, subjects choose between reserving the yard to test the system or trying to install the system directly without testing. If a subject decides to install the system without testing and the system meets the interface constraints (described next) then the system is successfully installed at the site, the middle path in Figure 1. Successful installation costs $10,000. Alternately, a failed installation attempt must be redesigned and rebuilt before installation (the bottom path in Figure 1) costs $40,000, and requires three additional weeks. Testing a system before installation costs $20,000 (the top line in Figure 1), but assures installation by holding systems until interface constraints are met. Performance was measured by the total cost; lower total cost indicates a better performance strategy.

The first system can always be installed successfully. Each system after the first system can only be installed when installation will create a shared-system interface (card edge) with a previously installed system. For example, if only system 5 is installed, then only systems 1, 6, or 9 can be installed. Each system number, and, therefore, the availability of a shared system interface, is not revealed until the system leaves the dock after the decision to test or attempt installation has been made. The task is difficult because the system number is unknown when the decision is made and because the conditions that determine whether installation will succeed or fail evolve from the time of the decision (at fabrication) to the time when the uncertainty is resolved (at the dock). As described so far, managing the Rig Installation Project

is an exercise in uncertainty management to minimize costs, but does not include flexibility in the form of a real option.

In the flexible version of the Rig Installation Project (the Flexible Project), managerial flexibility is provided by allowing subjects to delay decisions about whether to test a system or send it directly to the site until the system reaches the dock where the system number is revealed. This delay allows subjects to make decisions when they know whether the system meets the interface constraints. Therefore, delaying decisions allows a subject to avoid slow and expensive installation failure by testing systems that would fail installation if installed directly. Subjects decide to purchase or decline flexibility for each system. This form of flexibility is an option to avoid a high cost and delay (i.e., a put option). Delaying the decision about a system incurs an additional cost, the amount which is set by the experimenter. Option costs were adjusted to identify the subject's perceived value of the flexibility, as reflected in the maximum cost each subject was willing to pay for the right to decide later. Option costs started at $2,000 and were increased by $1,000 for the next system's delay if the subject accepted delaying the current system decision and were decreased by $1,000 if the subject declined the option to delay the current system, with a minimum of $0. See Wu (2005) for additional details on experiment design and operation.

Research Subjects and Experiment Protocol

The target population is practicing acquisition managers. However, differences in education, training and professional experience in real options vary widely across practicing managers and may disguise perceptions of real options. Therefore, to partially control these factors and due to subject availability, time, and resource constraints, graduate students (mainly from the Civil Engineering Department of Texas A&M University) were chosen as the subjects. The simplicity of the Rig Installation Project and clarity of the decision-making task suggest that differences in technical knowledge or experience between practitioners and students will not impact results (i.e., students and project managers were assumed to have the same level of knowledge necessary to manage the Rig Installation Project). Students and managers are expected to perform similarly on an information-processing task such as the task in this experiment (Ashton & Kraner, 1980; Khera & Benson, 1970; Singh, 1998). If the hypothesis (that subjects' perceptions are consistent with options theory) is supported for civil engineering graduate students, then support for practitioners would likely be stronger, considering they have equal or more education, training, or experience in real options.

Subjects sought to minimize total installation costs. Motivation for good performance was provided with $10 compensation to each subject for participation and monetary prizes for the top six performances. Each subject managed one Rigid Project (without flexibility) to become familiar with the Project and experiment processes and how performance is measured. Subjects then managed two Rigid Projects using their best strategies to achieve the lowest total installation cost. The experimenter verbally guided subjects through each project to ensure compliance with experimental protocol. Project conditions, costs, and subject decisions for each system were collected each simulated week by the experimenter and stored in an electronic data base. A semi-structured interview regarding how subjects made decisions was performed after the Rigid Projects. Subjects were then instructed concerning the use of flexibility in the Rig Installation Project (the Flexible Project). Three to six Flexible Projects were managed by each subject. A second semi-structured interview after the Flexible Projects was used to collect data concerning how subjects made decisions during the Flexible Project, with an emphasis on differences between the Rigid and Flexible Projects.

Simulation Model of the Rig Installation Project

Perceived uncertainty could not be directly articulated by subjects (e.g., with estimates of probabilities) with adequate precision and reliability. Therefore, the simulation model was used to describe the perceived uncertainty based on interview responses and decisions during the experiment. With few exceptions, subjects described the likelihood of success or failure of an attempted installation as their basis for decision-making. In addition, most subjects described those likelihoods as being dependent on conditions that evolved in response to the uncertainty (system sequence) and management strategy (subject decisions).

A simulation model of the Rig Installation Project was developed that can reflect Project processes, system uncertainty, subject strategies, and perceived uncertainty in the form of the likelihood of installation success or failure. The model consists of three sectors: installation, strategy, and cost. The installation sector operates exactly like the experiment by mimicking the flows of systems through a project (Figure 1) and random sequences of systems arriving at the dock. The strategy sector represents the policies that subjects used to make the test/to-site decision for each system based on project conditions. Interview results indicate that subjects perceive uncertainty as high when their ability to predict the outcome of a test/to-site decision is low, and visa versa. For example, 62% of subjects said they would not purchase flexibility in the beginning nor the end of a project when the probability of either success or failure was high; at these times, they felt better able to predict outcomes. Therefore, perceived uncertainty is modeled as low when either the probability of successful installation (p(s)) is high or the probability of failed installation (p(f)) is high:

Equation 1. Perceived Uncertainty

$$U = \min(p(s), p(f))$$

Where: U = Uncertainty

p(s): Probability of successful installation if system is sent directly to site

p(f): Probability of failed installation if system is sent directly to site

The cost subsystem adds operation costs (testing, installation, redesign, and rebuild costs) and flexibility costs together. See Wu (2005) for details of the simulation model.

RESULTS

Data from 125 simulated projects (42 Rigid Projects and 83 Flexible Projects) managed by twenty-one subjects were collected. Subjects spent an average of two hours on the experiment. One Flexible Project was deleted from the results because of the subject's misunderstanding of flexibility. Performance results suggest that the data accurately reflects real options and subject perceptions. Performance with flexibility was expected to be better than without flexibility. Yet, variances of the Rigid and Flexible Projects are not significantly different based on F-tests. Therefore, one-sided t-tests were used to test whether total costs of Flexible Projects were less than total costs of Rigid Projects (Table 1). As expected, flexible project performance is significantly better than rigid projects based on both an analysis of aggregate project performance ($p=0.0006$) or pair-wise subjects performance ($p=0.0002$).

	Projects Costs		
Project Type	**Total**	**Operations**	**Flexibility**
Rigid Project (n=42)	270.0	270.0	0.0
Flexible Project (n=82)	247.0	235.2	11.8
Difference (improvement with option)	23.0	34.8	-11.8

Figure 1. Cost Performance of Rigid and Flexible Projects

Hypothesis Testing

H: Perceived option values are positively correlated with perceived uncertainty.

The hypothesis was tested with three types of data: subjects' decisions during projects, subject interview data, and simulation results. Graphs of the perceived value of options versus Rig Installation Project time and perceived uncertainty versus Rig Installation Project time were generated from the experiment and simulation results, respectively. Similarity in these behavior modes would show support of the hypothesis.

The option value is conceptualized here as the maximum that subjects are willing to pay for flexibility. Exact perceived option values could not be captured directly using the experimental protocol. However, the envelope of option values can be described with the data, as follows. Each week subjects either did not purchase the option, thereby describing a ceiling value[1], or purchased the option, thereby describing a floor value[2]. Perceived option values for the subject pool of each week must be between these ceiling and floor values. Costs of flexibility oscillate around perceived values due to the movement of option costs in response to subject decisions. To partially compensate for the experimental-protocol-induced oscillation in collected data, ceiling and floor values are the average of the data collected in each week and the data collected in the previous week (Figure 2).

[1] Maximum cost subjects are willing to pay for an option may be less than (but not greater than) the cost offered but declined. For example, a subject declining an option costing $4,000 might also have declined it if the option had cost $3,000. Therefore, the ceiling values identified represent an upper limit on real-option values.

[2] Maximum costs subjects are willing to pay for an option may be more than (but not less than) the cost offered and accepted. For example, a subject purchasing an option for $2,000 might also have purchased it if the option had cost $3,000. Therefore, the floor values identified represent a lower limit on real-option values.

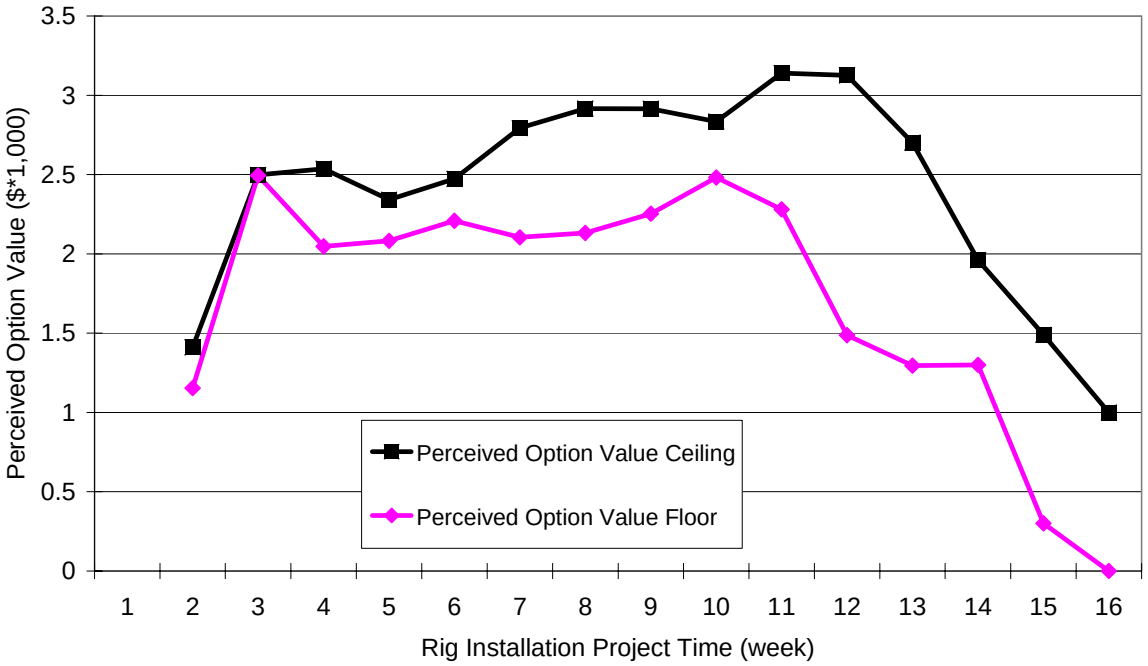

Figure 2. Envelope of Perceived Option Value vs. Rig Installation Project Time

The experimental protocol limits the rate of decrease in the rejected options costs to $1,000 per week. Therefore, the option value ceiling and perceived option values may drop faster and farther than reflected in weeks 11-16 in Figure 2. A generally concave shape of the perceived option value's envelope over time during the Rig Installation Project is observed in Figure 2. Subjects' answers to interview questions about their policies in Flexible Projects also support the concave shapes in Figure 2. Sixty-two percent of subjects (13 of 21) stated they would not purchase flexibility in the beginning nor end of the project, but would between these extremes. Fourteen percent of subjects (3 of 21) stated they would pay more in the beginning of the project even if the value of flexibility decreased over time. Fourteen percent of subjects (3 of 21) evaluated the flexibility value as constant over time and the remainder (10%) had no idea.

Perceived uncertainty was described with simulation results and supported by interview data. The simulation model was used to quantify perceived uncertainty. Perceived uncertainty was modeled using Equation (1). Perceived uncertainty is dependent on the decisions made during the project. Two extreme strategies were simulated to describe the envelope of possible perceived uncertainties[3]. An extreme risk-seeking strategy was modeled by sending all systems directly to the site. An extreme risk-averse strategy was modeled by only sending systems directly to the site that would install successfully and by testing all systems that might fail. The perceived uncertainty of 200 Rig Installation Projects with random system sequences were simulated for each extreme strategy (Figure 3). The shape of the simulated perceived uncertainty over time is generally concave.

[3] No subjects used either extreme strategy.

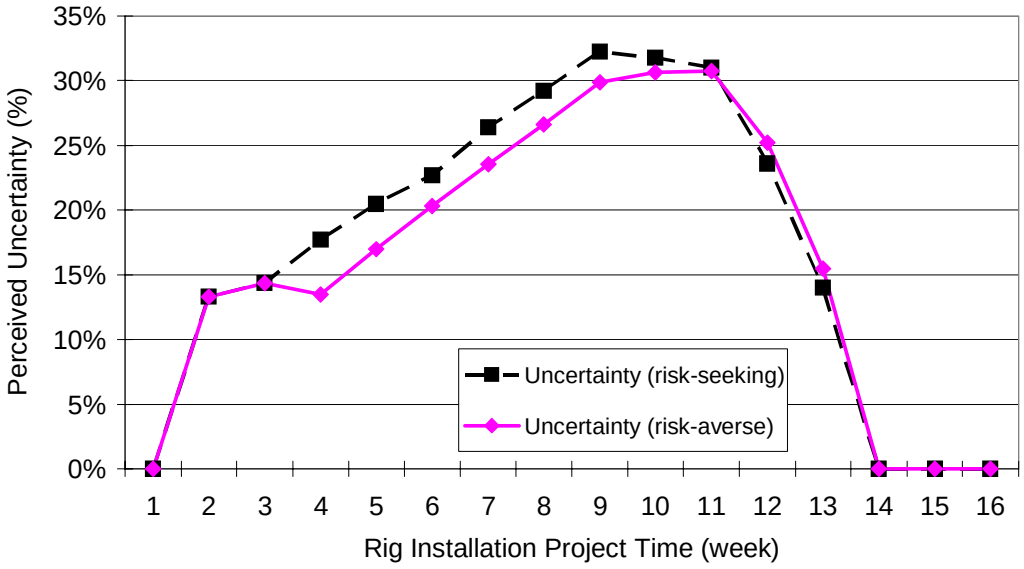

Figure 3. Simulated Perceived Uncertainty vs. Time

The behavior modes in Figures 2 and 3 are both concave. Differences between the consistency and precision of application of strategies in simulation (complete) and by human subjects (partial) can explain differences—such as in the timing of the peaks. Another possible reason is that subjects may overestimate uncertainty early in projects because a few systems have been installed (underestimate and with uncertainty) late in projects when most systems have been installed. The similarity in shapes in Figures 2 and 3 support the hypothesis.

The concave shapes in Figures 2 and 3 are also supported by interview data. The 62% of subjects that said they would not purchase flexibility near project beginnings or completion described their reasoning. Purchasing flexibility in the beginning of projects when the probability of failure was high was seen as unnecessarily adding cost because the system would most likely be tested anyway. Purchasing flexibility near the end of projects when most systems were installed and the probability of success was also high and, therefore, was seen as unnecessary. Subjects preferred paying more in the middle of the project when it was difficult to predict the outcome of attempting to install the system directly (i.e., when uncertainty was relatively high). Additional interview data also support the hypothesis. Subjects were asked, “If you managed the Flexible Project again exactly as we just did *except* that systems that would share a corner with a previously installed system can be successfully installed as well as systems that would share an edge, would you delay your decisions more often?” “Would you expect net savings to be the same, more, or less?” “Why did you answer as you did?” Twenty of twenty-one subjects (95%) believed flexibility would be worth less because the suggested change would reduce uncertainty. This is consistent with real-options theory. Therefore, the interview data also supports the hypothesis.

Interview data was also used to explore subjects' understanding of other portions of real-options theory with questions similar to the one above. For example, subjects were asked “If you played the Flexible Project again exactly as we just did *except* that it takes four weeks instead of two weeks to transport systems from Fabrication to the Dock, would you purchase flexibility more often, the same amount, or less often?” “Would you expect the net savings be

the same, more, or less?" Subjects were also asked the basis for their response. This question tests subjects understanding of the relationship between option life and option value. No significant correlations were found. We suspect this is partially due to the relatively few data points available (n=21). However, evaluation of the data in a manner similar to Brehmer's adeptness (1998) using the consistency of changes and direction of differences in data suggest that subjects understand that increasing asset value and option-life increases option-value. See Wu (2005) for details.

CONCLUSION

An experiment and a simulation model of a Rig Installation Project was developed and used to capture managers' perceptions of uncertainty and the value of flexibility. The hypothesis that subject perceptions of the relationship between uncertainty and option value are consistent with real-options theory was tested and supported. Additional data suggests that subjects may also hold perceptions concerning the relationships between asset value and option life and the value of options that are consistent with theory.

The conclusions are limited by the nature and scope of the research. Additional subjects could strengthen conclusions through additional data and analysis. Experimental conditions (e.g. only one uncertainty) are significantly simpler than those experienced in practice, potentially allowing subjects to understand relationships more easily than is possible in practice. The subjects may not accurately reflect practicing acquisition managers.

Despite the preliminary nature of the results, some conclusions can be drawn. We conclude that subjects understand at least one of the fundamental drivers of option value and that they perceive flexibility in the form of options as effective tools in managing uncertain acquisition projects. If results are also applicable to practicing managers, who likely have equal, or more education, training, and experience in managing uncertain projects, the results would also suggest that practicing managers also understand at least some of the fundamental drivers of option value and that they perceive flexibility in the form of options as effective tools in managing uncertain acquisition projects.

This research contributes to the development of real options as effective operational tools for managing uncertainty. Previous research highlights real options' use in isolated anecdotal settings but does not objectively gather and describe perceptions of real options in controlled conditions. The current work is the first known real options research to collect and describe real options perceptions in controlled experiments. We used this data to describe and test subjects' understanding of fundamental option relationships, which can be used to assess and improve practice and build improved options theory for application. The results have implications for both real options research and practicing managers. They suggest that the subjects, and perhaps practitioners, conceptually understand fundamental options relationships. This implies that real-options research—seeking to develop effective tools and methods for applying real-options theory in practice—do not need to focus efforts on demonstrating the value of options or the fundamental drivers of option value. Real options research for application can be more effective if an understanding of fundamental real options concepts is assumed, and work focuses on developing tools to help managers apply options. Such managerial tasks might include recognizing opportunities to exploit options, structuring the complex circumstances faced in practice as options, designing and evaluating strategies, and implementing chosen flexible strategies. Despite the preliminary nature of the results, they also have potential implications for practicing managers. Although they valued flexibility, subjects in general found it difficult to articulate their strategies and the basis for the design, assessment, and selection of

those strategies. Therefore, managers can potentially improve the management of uncertainty in acquisition projects by making their strategies and the flexibility in those strategies more explicit and available for evaluation and improvement.

Future research on the nature of human perceptions of options can test the consistency of perceptions with other fundamental real options relationships and the depth of that human understanding. Research and development of tools and methods for the application of basic real options in practice can build and test tools that bridge the gap between current real-options theory and uncertainty management practice. These tools may include means for making strategies more explicit and structured, measuring uncertainty, and evaluating options with complexities similar to those experienced in practice. Continued real-options research that links theory to practice can increase the breadth and effectiveness of real-options use to improve acquisition projects.

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